THE ELEMENTARY SCHOOL JOURNAL

VOLUME XXXVII MAY 1937 NUMBER 9

Educational News and Editorial Comment

THE FUNCTIONAL VALUE OF CURRICULUM CONTENT

There is a widespread, if not universally accepted, view that the instructional content and activities to which children and young persons are introduced should be functional; there is perhaps equal acceptance of the view that children learn through doing, through some type of activity. When, however, different persons come to define what is functional or what is activity, there are likely to be wide differences of opinion. There is, in fact, grave danger that these two terms may be so narrowly defined as altogether to exclude from the curriculum experiences of the highest educational value. In an editorial which appeared in the *University of Michigan School of Education Bulletin*, Professor O. W. Stephenson calls attention forcefully to this danger. We quote the editorial in full.

Some educators put such a narrow interpretation on the word "function" as it applies to the choice of subject matter to be taught in the schools that they seriously limit the educational experiences of their pupils. Apparently they act on the assumption that no subject matter really functions unless it causes observable changes in the attitudes and behavior of boys and girls that are immediate and socially desirable, or unless they can give this subject matter a practical application in their daily living. It is the belief of the writer that the

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word should be given a much more inclusive interpretation, one which comprehends subject matter that does not necessarily cause changes which are immediately observable, that is not applied in the present living of pupils, and that cannot be measured in column inches, referred to horizontal and vertical co-ordinates, or statistically treated in terms of *sigma* and *rho*.

If we accept as valid and achievable the general aims of education, and those of special subjects within the general field, we are bound to put the broadest possible interpretation on the word. If these aims cannot be made to function, why should leaders concern themselves with them? Why all the study, lengthy conferences, and patient labor in phrasing aims if some of them are to be ignored by administrators, supervisors, curriculum-makers, and classroom teachers? Why, for example, have any "Goals of Public Education in Michigan" if four or five of these goals are to be discarded as unattainable as soon as they are read?

These questions force upon us the more fundamental one: What subject matter *does* function in the lives of boys and girls? Our answer is that all subject matter a pupil studies functions in some way or other, either for better or for worse. Thinking is not possible without some sort of change in the person who does the thinking. If the content in connection with which the thinking is done is of the right type, the accompanying change will be in the direction most educators would consider desirable.

The main question to keep in mind when judging the worth of content is whether there are inherent educational values in it. If there are, it cannot be rejected as useless. If by studying it a change for the better comes in a pupil's social attitudes, appreciations, ideals, habits, abilities, and skills, and if by so doing he acquires a body of knowledge which will be of use either in his present or future living, then that subject matter is not to be passed over as worthless.

As far as achieving aims is concerned, some educators seem to think that, to be of value, subject matter must be directly related to or deal with the present, preferably with the immediate, environmental conditions of the pupil. If the content has to do with events of the remote past and they can see no direct connection between those events and present-day affairs, they pass it by in favor of something they think is more functional. They do not seem to realize that *time* is not the essence of the matter when judging the value of content. *When* events took place or conditions existed makes little difference in the emotional reaction a child may experience or the choices he may set up as a result of his study. What really counts is *effect*—whether these reactions and choices result in changes for the better.

According to some, a child does not experience life unless he lives it; he learns only by doing. With this we agree. But let us remember that he is living his life and is doing when in quiet contemplation in his classroom or when solving problems in a secluded retreat in a library quite as much as he is when flexing his biceps in the shop or going on an excursion to a museum, and the former experiences may be of far greater educational value than the latter.

Content can be made to function and aims can be achieved without manual-

motor manipulations and muscular movements. An imaginary excursion with Socrates to the Agora and thence to his prison may produce a much more desirable effect than an actual trip to the city incinerator, garbage-disposal plant, or polling place in the seventh precinct. To reflect on the courage of Columbus may result in a change of far greater significance than one resulting from a visit to a Citizens Conservation Camp. Certainly some of our aims in education may be achieved merely through contemplation and study without requiring pupils to move from their seats. If they can be, then the subject matter with which the contemplation and study are done may properly be said to function.

Statistics of Education, 1930–34

The statistical data contained in the following paragraphs are taken from "Statistics of State School Systems, 1933–34," which is chapter ii of the *Biennial Survey of Education in the United States: 1932–34* (Office of Education Bulletin No. 2, 1935).

For the four-year period 1930–34 the increase in the number of pupils enrolled in the public schools was 756,178, or 2.9 per cent. During the biennium 1932–34, the rate of increase of enrolments was much lower, the percentage of increase being only 0.6. From 1932 to 1934 there was a decrease in enrolment in nineteen states. Enrolment by grades shows clearly the influence of the declining birth-rate. In 1934 there were 434,067, or 10.5 per cent, fewer children in Grade I than in 1930. Since 1930 there has been a steady decrease in enrolment of each of the first five grades; in 1934 there were approximately a half-million fewer children enrolled in the public elementary schools than in 1930. High-school enrolment continues to increase but at a slower rate; from 1930 to 1932 the percentage of increase was 16.8, while from 1932 to 1934 it was only 10.3.

For the four-year period ending in 1934 the average annual salary of teachers, principals, and supervisors decreased 13.6 per cent for the country as a whole. In several states the average salary was reduced by as much as 30 per cent. In 1934 the average annual salary for this group was $1,227.

The total revenue receipts for the public elementary and secondary schools in 1934 were 13.3 per cent less than in 1930. Within the four-year period 1930–34, 33 states have on an average assumed a greater relative responsibility for financing the schools. In 1930 only 16.9 per cent of the revenue receipts came from states; in 1934

states were the source of 23.4 per cent of such receipts. In 1934 the schools in four states—Delaware, North Carolina, Texas, and West Virginia—were receiving more than half of their revenue from state appropriations or taxes. West Virginia is the only state in which no school revenues are derived from local school districts.

Combining current expenses (including interest) and capital outlay, the annual cost per pupil in average daily attendance in 1934 was $76.22. This was $32.27, or 29.7 per cent, less than in 1930. In 1934, as in previous years, there was a marked variation among the states in cost per pupil in average daily attendance. Based on current expenses, including interest, the cost per pupil in 1934 ranged from $24.50 in Mississippi to $137.69 in New York.

It is evident that some progress has been made in school consolidation. In 1934 there were 4,903 fewer one-room schools than in 1932, and 10,170 fewer than in 1930. In 1934, however, there were still 138,542 one-room schoolhouses; one-room schoolhouses constituted 57 per cent of all schoolhouses. States having more than 6,000 one-room buildings are as follows: Illinois, 9,990; Iowa, 9,215; Missouri, 7,296; New York, 7,251; Kansas, 7,167; Minnesota, 6,765; Wisconsin, 6,579; Pennsylvania, 6,105; and Nebraska, 6,068.

Approximately one-half, 49,2 per cent, of the pupils attending public day schools in this country attend rural schools. In 1934 rural children, on the average, had an opportunity of attending school 160.8 days; the average length of the school term in cities was 181.7 days. Although approximately half of the pupils attended rural schools, current expenses in city schools amounted to $967,577,382 as compared with $547,952,816 in rural schools. The average annual salary of city teachers in 1934 was $1,735, and of rural teachers, $787.

The Need of a Nation-wide Program of Education in Conservation

In the fertility of its soil, in the extent and the variety of its forests, in the quality of its climate, and in the richness of its mineral resources, that portion of the North American continent lying within the boundaries of the United States has been particularly favored by nature, favored more than any area of similar extent on the face of the earth. It was this very prodigality of nature from which, in

part, sprang what has been termed the "American dream"—the ideal of equality of opportunity, of economic well-being and security, the vision of a land in which those who tilled the soil would be the owners of it. From the earliest Colonial days in this country, man set about to "conquer nature," to shape it to his will and convenience. Not only was nature to be exploited, but each man was to do it in his own way and to his own ends. Any social restraint on the individual in the use of his land or of its resources would have been regarded as a mistaken principle of economy and an exercise of arbitrary power.

What have been the results? Millions of acres that should have remained in forests have been stripped of their timber and other millions that should have remained in grass have been given over to the plow. Unchecked by forest or grass, flood and dust storm take their toll and force thousands to turn to government for relief. Much has been learned about the science of agriculture, but soil depletion through rain and wind erosion has tended to offset all that science has contributed. For the decade ending in 1929 yield per acre for crops taken as a whole remained practically stationary, and the pasture lands probably declined. Agricultural experts estimate that "probably a third of the surface soil has been removed from one-fourth of the cultivated land of the United States." Truly, nature will not be "conquered." She is, in fact, an exacting mistress, and, though her sanctions may be long delayed, they are as inevitable as the rain and the wind. In a nation which not long ago regarded its public domain as inexhaustible for ages to come and in which a homestead could be had for the taking, tenantry has come to be a national problem. As Aldo Leopold reminds us, "land despoliation has evicted nations and can on occasion do it again" ("The Conservation Ethic," *Journal of Forestry*, XXXI [October, 1933], 635).

Civilization depends on man's discovery of the ways of nature and on his success in organizing his institutions in harmony with those ways. Moreover, it is becoming increasingly clear that, where natural resources are concerned, whether of land or water, of forests or minerals, individual exploitation should give place to a measure of social control.

President Roosevelt has recently submitted to Congress the re-

port of the Great Plains Committee, which bears the title *The Future of the Great Plains*. The area described includes portions of ten states and extends from the Rocky Mountains eastward to the prairies and from northern Texas to the Canadian border. The report makes it clear that the problem of the Great Plains is not merely one of extending temporary relief to a courageous and energetic people who have been overtaken by disaster. The problem is much deeper; it involves the development of an agricultural economy which is adjusted to soil and climatic conditions of the Great Plains. By historic circumstance this area was populated in a period of higher-than-usual rainfall. It was only natural that the settlers should have developed a form of agricultural organization and methods of farming which had proved relatively successful in a more humid climate. In so doing, however, they disturbed the balance of nature; they failed to develop an economy adjusted to natural conditions. To establish such an economy is the problem of the Great Plains. It involves fundamentally different methods of land and water utilization, and it involves, too, the co-operation of national, state, and local governments.

The first part of the report describes the general physical characteristics of the area; the second part deals with the use and misuse of lands and waters; and the third part defines a program of readjustment and development. The committee which prepared the report recognizes fully the part that education must play in any program of conservation. Its comment on this point is of such significance that we feel justified in quoting it at some length.

Problem of educational adjustment.—Over thirty-two million persons are enrolled in public and private elementary and secondary schools, colleges, and universities, and in public night, summer, part-time, and continuation schools of the nation. Because of a certain inertia, the more immediate use of such institutions in a conservation program calls for a redirection of attention in a few phases of their activities. The ultimate goal of such a program is a functional reorganization of these institutions to achieve a more realistic education in the social and economic problems of modern life.

In order to employ educational institutions appropriately in either a narrow or broad conservation program, all the factors in organized education must be adapted to the purpose. It is hoped that the program will recognize the necessity for leavening the organization in every phase. Teacher training and teacher retraining must concern itself with conservation problems of both natural and

human resources. This, however, for many years will be relatively ineffective unless concurrently there are appropriate revisions of curriculums, instructional and pupil work materials, textbooks, and such instruments as are commonly employed by teachers. Satisfactory utilization of the institutions of organized education in this program can only be achieved by broad scale revision of procedures and instruments.

Training of teachers.—Teachers in training must be reached with courses that both give a broader knowledge of pertinent fundamental sciences and a more realistic understanding of the problems of conservation in detail. The teacher-training institutions in the ten Great Plains states should at once, individually or collectively, give further attention to this problem. Their success in designing a program which would prepare teachers who in turn could appropriately teach conservation would no doubt give impetus to such training throughout the nation.

A great proportion of the teachers now in service will not be involved again in any formal intensive training program. It is important, therefore, to plan a teacher retraining program in the Great Plains states. This retraining program might involve the use of county teachers' institutes where they still exist, county teachers' meetings, and other devices of in-service training such as the preparation and distribution of special teaching suggestions and bibliographies of educational materials for use by various age groups. All Smith-Hughes teachers in agriculture and in home economics could make use of such facilities; in fact they constitute a group which should be a strong factor in conservation education.

Especially important is the development of an adequate system of supervision of instruction in the conservation of resources. Adequate supervision will go far in compensating for the deficiencies in training among those teachers who in the immediate future must be utilized for the desired instruction.

Adapting scientific material to teaching purposes.—Some of the organizations which have been mentioned—governmental and non-governmental—have been active in conducting scientific experiments and in gathering scientific data on the various problems involved in the conservation of natural resources. Any effective program of conservation education is definitely dependent upon the availability of materials which will have genuine scientific authenticity.

Once such materials are at hand, it is obviously a responsibility of trained educators so to organize them that they may be made to serve in the immediate program of teaching appropriate action in the present crisis, and also in the long-term program of creating proper attitudes. Much of the material now available is of debatable educational value, not so much because of questionable authenticity of the technical content as because it has not been organized or disseminated in a form suitable for educational use. Material should be presented in simple understandable form, and the visual technique employed in every possible manner. The task of educators in co-operation with conservation experts in the immediate program is to reshape the existing materials to serve an

educational function by translating, co-ordinating, and directing specialized information so that it will reach existing agencies and institutions in forms more suitable for integration in courses of study, club action programs, open forum discussions, radio broadcasts, motion picture presentations, dramas, classroom discussion units, and other educational approaches to the children and adults of the nation.

The new findings of research should be made available to teachers promptly and currently. Scientists should not wait before publication until they have discovered all the facts bearing on a problem, if facts already discovered are of guiding significance. Conservation education must go on every day, and the latest information should always be available to teachers. . . . .

EDUCATION AND COMMUNITY LIFE

In many of our communities education has not had a direct relation to life itself. It too often has been a preparation for something rather than a growth in intellectual power and purposeful living. The school must become the community as it thinks and acts. The school must lead the community to establish its own forward-moving policies and guide those policies through their application. There is envisioned a school which, as regards plant, would comprise the rightly ordered and efficiently operated agricultural, industrial, commercial, social, and residential elements of the community; a plant to which old and young would turn for guidance to experts, libraries, and laboratories. People of all ages would come into its center; those at its center would be constantly carrying their findings into every home and making them operative for more effective living.

Health, wealth, conservation, and utilization of natural resources would be direct concerns of the school. The staff would consist of all those who could contribute in knowledge, skill, or attitude, making for the more effective co-ordination of community and individual living. The membership of this staff of necessity would include personnel from all agencies engaged in the land-use and conservation program of the community, including those who live on and use the land. In fact, through that powerful educational agency, "discussion groups," the members of the community itself would become an essential element of the teaching staff. Finally, conservation would be broadened beyond its relation to natural resources and would embrace the conservation of all human values through the creation of a community which would utilize co-operatively all technical knowledge and would be a normal expansion and modification of our traditional democratic form of government.

INTEGRATION OF EDUCATIONAL EFFORTS

It must be admitted, however, that co-ordination of efforts and programs of these out-of-school agencies has been lacking. The very existence of so many constructive educational influences in many out-of-school agencies which have not yet become a part of the in-school program is indicative that the public education system as it is now organized is too slow in including in its learning

program many of the vital problems of life. Inasmuch as the direction of any program of conservation education must consider the co-ordination of efforts to out-of-school agencies with the school programs in order to achieve effective results, it should be the goal of this direction so to relate education to community, county, state, regional, and national planning for the use of natural and human resources, that education becomes a process of learning by purposeful participation in the life of the community, and the life of the community becomes, for all ages, a series of educational experiences.

As has been indicated, many agencies are already engaged in such educational work, and others not now so engaged are available. The outstanding educational problem, therefore, is one of integrating the efforts of all such agencies into one co-ordinated intensive program.

DEMOCRACY AND EDUCATION

In a democracy, education is more fundamental even than legislation as a force directing rational progress. It is the basis of wise legislation, promotes general acceptance of legislative and administrative measures, and guides individuals to action along lines consistent with the requirements of the society of which they are members.

In view of the preceding discussion it is therefore an urgent need that those responsible for the direction of educational policy in each state, and those responsible for the direction of federal co-operation in education, should formulate promptly a nation-wide program of education in conservation, flexible in adaptability to regional need and especially intensive in the Great Plains area. Emphasis on social and technical phases should be rationally apportioned. Utilization of every formal and informal existing and potential educational agency should be provided for in the program. There should be included a subordinate program for training teachers of many specialized fields where and how conservation material may properly and effectively be incorporated into their instruction. Manuals of teaching materials should be prepared and published, and suitable textbooks be made available. To assure continuity of effort in this direction, and especially to assure well co-ordinated efforts, provision should be made for the proper organization of educational facilities and the unified direction of the program.

Reports of conditions, causes, and recommended lines of action for solution of national problems remain but so much dead printed matter if not vitalized by some dynamic force. In a democracy the primary dynamic force is education, for the processes of democracy require common understanding and an inspired impulse among its citizens to action leading to every commonly accepted objective.

The Annual Report of the Superintendent of Schools of New York City

In his recently published annual report, which bears the title *All the Children*, Superintendent Campbell not only presents to the

public an admirable account of his stewardship but provides for superintendents elsewhere an excellent illustration of the new type of school report. In clear, simple language attention is directed to some of the more important social changes which are playing on the school from without, to the controlling purposes of the educational system, and to the methods and procedures employed in moving forward toward a solution of major problems. A striking feature of the report is the extensive use of excellent photographic illustrations.

School administrators and teachers throughout the country will be especially interested in the experiment with the activity program which is being carried out in New York. An activity program has been introduced into sixty-four schools drawn from every type of community. After a period of years results achieved in these schools will be compared with results achieved in comparable schools of the more conventional type. An advisory committee, including members who are committed to the best procedures of the more formal type of instruction, has formulated comprehensive plans for evaluating the experiment. Some early and tentative evaluations have already been attempted. Each experimental school made various studies, including investigations based on standardized achievement tests. Results in reading, vocabulary, and composition are said to have been most gratifying.

Adjusting the Report Card to Modern Practice

Norma Gillett, of the Department of Elementary Education, Teachers College, University of Nebraska, has prepared for the Nebraska State Teachers' Assocation a mimeographed bulletin entitled "The Elementary School Report Card." The first part of the bulletin contains a discussion of the function and purpose of the report card. The second part is devoted to an analysis of report cards now used in Nebraska schools. The third and last part presents conclusions and recommendations, among which the following are the most significant.

1. The giving of definite grades, particularly in the form of percentages, is not recommended as the most desirable means of reporting on pupil progress. Grades are not scientifically determined, not objectively defined, and are capable of varying interpretations. They tend to set up in the mind of the child a false conception of the total function of school life. When grades are per-

sistently discouraging to a child, or when they are so satisfactory that they tend to develop too much complacence, they may have harmful psychological effects.

2. Ranking within the class deserves the same criticism as the foregoing item. Ranking is especially harmful for pupils who are not scholastically superior, because it emphasizes high grades at the expense of other equally desirable personal characteristics. There is some feeling that the child should be ranked according to his achievement in relation to his own ability, and not in comparison with the ability of other children.

3. A single grade in a field of subject matter which necessarily combines many skills and knowledges is an inadequate report of pupil achievement in that particular subject. Teachers, pupils, and parents should be cognizant of the many factors which enter into success in any school subject or activity, for example, geography.

4. The personal note to parents concerning pupil growth is recommended as the most comprehensive method of report. It implies comment on any or all phases of pupil development, physical, mental, emotional, or social. Its value lies in the individual appraisal of each child and in the close contact and co-operation which it can establish with the home. Although most report cards do contain a printed message to parents, which is friendly in tone, it does not accomplish the purpose of the personal communication between teacher and parent.

5. Reports on character, citizenship, or personality traits should be listed on the card. They should be so stated that they are positive, rather than negative, in implication because of the possible bad effects of "bad marks" being held against the child.

The listing of several character traits for comment is desirable, since this form of report calls attention of teachers, parents, and pupils to the larger scope of the school in developing and appraising the whole child as a social individual.

6. The report card, as the systematic means of communication between the school and the home, can profitably, on the whole, take more cognizance of health factors as they affect both scholastic achievement and social growth.

New Admission Requirements for Teachers' Colleges in Pennsylvania

The state teachers' colleges of Pennsylvania have adopted new admission requirements, which emphasize such essential qualities as scholarship, personality, intelligence, stability, and social presence. The following statement describing the new regulations is quoted from *Public Education*, the monthly bulletin of the State Department of Public Instruction.

The regulations for admission to the state teachers' colleges of Pennsylvania require the applicant to appear at the college on days announced during the summer session. Following is a statement of the general principles controlling

the new admission regulations. Enrolment is conditional until the applicant has met all the requirements set forth in the following five paragraphs:

1. General *scholarship* as evidenced by graduation from an approved four-year secondary school or institution of equivalent grade as determined by the Credentials Division of the Department of Public Instruction and ranking in the upper half of the class at graduation. Candidates for admission who lack this rank at graduation will be required to take an examination as prescribed in the detailed standards for admission.

2. Integrity and appropriate *personality* as shown by an estimate of secondary-school officials of the candidate's trustworthiness, honesty, truthfulness, initiative, industry, social adaptability, personal appearance, and sympathy.

3. Health, physical vigor, emotional *stability*, absence of physical defects that would interfere with the successful performance of the duties of a teacher and absence of predisposition toward ill health as determined by a medical examination at the college. Specific standards will be set up in the detailed requirements for admission.

4. Normal *intelligence* and satisfactory command of *English* as evidenced by ratings in standard tests. The tests to be used will be prescribed each year by the Board of Trustees and will be uniform for all state teachers' colleges.

5. A personal interview with particular attention to personality, speech habits, *social presence*, expressed interests of the applicant and promise of professional development.

All new applicants must secure and have forwarded to the dean of instruction the following blanks before the personal interviews at the college: (1) application and personnel record to be filled in and forwarded to the college by the applicant; (2) preliminary medical and physical examination form to be filled in and forwarded to the college by the family physician; (3) certificate of high-school graduation to be filled in and forwarded to the college by the secondary-school principal.

All new applicants must arrange with the dean of instruction to fulfil in person at the college the following requirements: (1) a personal conference, (2) a medical examination, (3) a written examination if the applicant is in the lower half of the secondary-school graduating class.

Who's Who in This Issue

Charles H. Judd, head of the Department of Education of the University of Chicago. Foster E. Grossnickle, professor of mathematics at State Teachers College, Jersey City, New Jersey. William C. Reavis, professor of education at the University of Chicago. William S. Gray, professor of education at the University of Chicago. Gertrude Hildreth, psychologist of Lincoln School of Teachers College, Columbia University. Elise H. Martens, senior specialist in the education of exceptional children at the United States Office of Education.

HOW SHALL THE ENRICHED CURRICULUM BE MADE SYSTEMATIC?[1]

CHARLES H. JUDD
University of Chicago

There are certain modern theories of education which seem to be unfavorable to any systematic instruction in the schools. The advocates of these theories use harsh words when referring to the traditional school subjects. Of the conventional school practices, the one which irritates them perhaps more than any other is drill on the multiplication tables. They point out with great emphasis that the sequence of ideas which is set up when the mind couples 6 times 4 with 6 times 5 and 6 times 6 is not a natural sequence and is therefore useless and pernicious. In practical life, they say, the ideas expressed by the formula 6 times 4 appear without any connections whatsoever with the other ideas about 6. Six objects each costing four cents are the facts with which people are concerned in real life. It is concluded, therefore, that in education children should be introduced to 6 times 4 in the presence of situations which are practical—wholly different from those which make up the multiplication tables of 6's and 4's.

Similarly, criticisms are launched against geography of the type which emphasizes political boundaries and products. There is no justification, the critics say, for committing to memory series of names of the products of different countries or boundaries of geographical areas. Such systematic ideas, it is asserted, are barren and unproductive for the ordinary individual and should give place to interesting ideas about rainfall, fertility of the soil, and resulting human prosperity.

Some who are opposed less to system than to the conventional school subjects favor new methods of dealing with intellectual materials because the divisions between the lines of information

[1] Address delivered on February 23, 1937, at the meeting of the Department of Superintendence of the National Education Association.

dealt with in the schools are artificial. For example, they say that it is unfortunate that the narrative of history is studied out of one book and rehearsed in one class while the geographical facts about routes of migration and barriers to human progress are studied out of another book and dealt with in another class. The rational procedure, they say, is to combine all that is now classified as history and geography into a new, stimulating social study.

The reorganization of the curriculum through the combination of two or more subjects appeals to anyone who considers the urgency which modern civilization has created for crowding as much into school programs of instruction as it is possible to include. The discoveries of science, the development of new plans of government, and the growing complexity of industry and commerce have thrown on education a heavy burden. The utmost economy is necessary if the individual is to be equipped with the knowledge which he needs to guide him in the new world of present-day civilization. If subjects of instruction which engage the attention of learners as separate trains of ideas can be interwoven into a single pattern of associated ideas, the resulting economy of mental energy will greatly facilitate individual mastery of that which must be learned.

The movement to reorganize subjects of instruction by combining them is affecting the curriculum of the colleges even more than it is affecting the curriculum of the lower schools. The so-called "general survey," or "orientation," courses are drawing their materials from whole groups of subjects. The general survey course in the social sciences, for example, aims to bring together the findings and general principles of economics, sociology, and political science and sometimes in addition some of the facts ordinarily treated in anthropology, institutional history, and geography.

There is, on the other hand, a disposition in many quarters to resist the breaking-down of the boundaries between subjects of instruction. Scholarship, it is contended by the defenders of the present special subjects, depends on concentration on narrow lines of specialization. If one is really to master geography or economics, one must follow persistently one line of coherent thought, one single type of intellectual associations.

The clash between those who favor the conventional subjects and

those who would replace them with less systematic or differently organized plans of instruction has become acute. Many schools have been thrown into a state of chaos. They have given up the old program of studies and do not know how to arrange the new program. It is not easily possible to compose the conflict. An attempt may perhaps begin most promisingly by considering at some length the psychology of the school subjects. When one analyzes the contentions of even the most radical reformers, one finds that these reformers are not abandoning all system in their programs of instruction. They are merely changing from one set of associations to another. I believe that there is no one who would for a moment deny that knowledge is developed in every individual through association of ideas. Indeed, every writer on psychology from Aristotle down to the author of the latest textbook on the subject and every writer on education, at least every writer since Herbart, has pointed out that the mental life of an individual expands through the development of chains of associated or connected ideas. Aristotle formulated certain laws of memory which modern psychologists have called "laws of association." Herbart called them "laws of apperception." These can be readily illustrated from everyday experiences. One meets a stranger and hears his name pronounced. Face and name are associated under the law which Aristotle called the "law of contiguity." The two ideas, having been together in consciousness, are so associated that the appearance of one at a later date will serve to call up the other.

There are other kinds of association, such as association through similarity. One person looks like another. The result is that the mind of an observer relates the two although they have never been together in real life. Association through similarity is in a sense a higher form of mental combination than association through contiguity because in cases of contiguity the association is, so to speak, forced on the mind of the observer by external impressions while in association through similarity there is a kind of inner comparison. The mind is active in setting up a new associative connection. To use the classic illustration, when Newton discovered that the same law of gravitation operates in drawing a falling apple toward the center of the earth and in holding the moon in its orbit, he showed a

higher power of association in that particular field than any man had ever shown before. He saw similarity in the two phenomena, but, in so doing, he exhibited the highest type of intellectual penetration. The law of association was indeed exemplified, but experience was extended through inner forces rather than through contiguity of external impressions.

Another general fact about association of ideas, the understanding of which will carry us further in the treatment of our present theme, is that there are some associations which are fruitful for individual thinking and there are others which are not. I suppose that everyone has his bad spots in the multiplication tables. If a personal illustration is permissible, I may confess that 54 and 56 got themselves badly mixed somewhere in my youthful experience. I know perfectly well that one of these bothersome numbers is and should be associated with 7 times 8 and the other with 6 times 9. If I am given a little time, I can multiply the numbers quite correctly. I have an undisturbed memory of the fact that 8 times 8 makes 64. I can now perform a simple process of subtraction and say with assurance which of the two numbers, 54 or 56, attaches to 7 times 8. Similarly, I have a personal device for clearing up 54. The trouble in my case is that somewhere in the past the wires of association were tangled and I am compelled to untangle them whenever I find it desirable to be exact. I can land in the middle of the 50's without hesitation, but I have to be cautious about the side of 55 on which I land.

There are all kinds of cases in which difficulties arise from tangled associations. The *ei* and *ie* combinations in such words as "receive" and "believe" confuse some people. There are also cases in which associations help to avoid difficulties. I may perhaps with propriety contribute another personal experience. I recall vividly the comfort which one of my teachers provided me in one of the early grades when I was having trouble with two words that are pronounced alike, "peace" and "piece." She told me that it is easy to spell "piece" if one associates the first three letters of the word with the easy and readily related word "pie." My teacher was appealing to a fundamental law of her pupil's mind. I am quite certain that, among the numerous innovations which I have introduced into English orthography since the day I set up that particular associa-

tion, there has never been a single departure from the straight and narrow path with respect to the spelling of "piece."

I am sure that those who are opposed to the conventional school subjects have the same respect for the laws of association that those have who are most devoted to the multiplication tables and conventional geography and history. The disagreement which has arisen is with respect to the kinds of associations of ideas which children should cultivate. Is it better to learn number combinations through experiences of buying and selling and through experiences of measuring or through arithmetical drill?

The contrast of views here under discussion is important because systems of thinking are based on associations. A system of ideas is a more or less compact and interrelated series of associations of a fairly uniform type. Illustrations will be helpful in showing what systems of ideas are like. Some systems of ideas are not commonly recognized as such but are persistent and controlling. They illustrate strikingly the tendency of the mind to combine like experiences. Thus, there are grammatical associations which develop into systems. For example, the past tenses of most verbs are alike in form. All verbs have their primary meaning in the present tense: I walk, you walk; I reach, you reach; I carry, you carry. If any one of the verbs mentioned is thought of as expressing an act in past time, a train of associations is set up which modifies the form of the expressive word by adding the ending *ed*. We cannot easily detach ourselves from the association of *ed* with the verbs mentioned whenever experience reaches backward: I walked, you walked; I reached, you reached; I carried, you carried. There are other dominating grammatical associations. Whenever one is in the attitude of thinking about ownership, one attaches an *s* to the noun.

To be sure, grammar is not absolutely systematic. There are ancient verb forms which have come down from antiquity that do not take on the *ed* association. The grammarians somewhat humorously call them "strong verbs." The strong verbs have a history of their own, which we cannot here study in detail. Suffice it for our purposes to say that a strong verb resists the associative tendency to add *ed* when one is in the attitude of looking backward. If we obey the demands of strong verbs, we "went" instead of "goed," and we

"bought" rather than "buyed." Interestingly enough, many a child tends to be systematic and says that he "goed" somewhere or "buyed" something. It then becomes the duty of the older members of society to reinforce the strong verb and to insist, in the interests of historical tradition, that the strong verb be allowed to retain its peculiar identity outside the *ed* system.

While grammar is only partly systematic, there are areas of intellectual effort where departures from a system are strenuously resisted by society. For example, society tolerates no "strong" or irregular examples of counting. It is indeed true that, when little children first use the number names, they take liberties with them, especially with their order. They often count "one, two, three, five, seven, six, four, ten." It is only our tolerant attitude toward infant inexperience that permits us to say in such a case that the child is counting. There is for all persons beyond the earliest years one and only one associative system of number names. The system is absolute, imperious, and dominating. Six comes after five and before seven. Out of its associative order, six is a dangerous hazard.

Modern society has had to set up dominating systems of experience in order to make possible safe community life. For example, in this country the law requires users of the highways to keep to the right. Individuals become so habituated to obeying the law that keeping to the right becomes a part of their inner nervous organization. The system is an external system developed by society, but it becomes a part of the personal experience of every normal individual.

There are systems of experience which must be described as harmful. For example, there are systems of national hatred that have been built up and transmitted by older generations to younger. There are systems of class hatred which need no detailed illustration to be clearly in the minds of all of us. There are social systems which are not harmful but are so wholly artificial that only a careful study of history makes them intelligible. For example, the monetary system is intelligible only when one studies its origin in primitive forms of exchange. We have to recognize the artificial character of this system when we introduce children to it, and now and then in periods of inflation and devaluation we realize the man-made character of the system.

However artificial social systems are, there is one fact about them which should never be overlooked—they grow out of the fundamental nature of human experience. Associations group themselves into systems. The mind of man stores up experiences in associative chains, and these chains become systems. There is no unattached, unassociated idea; in other words, there is no idea which is not a part of some mental system.

The problem which must be solved by education is not that of changing the laws of the mind but rather that of producing, if possible, useful and wholesome systems of ideas. No one can defend a theory of education which does not recognize the natural, indeed inevitable, necessity of some kind of organization of mental life. When the most extreme advocates of new plans of education declare that the conventional school subjects should be discarded, they are not attempting, if they are at all intelligent, to run counter to the laws of association. They are merely arguing for systems of associations which seem to them to be more fruitful and defensible than the systems now taught in the schools.

One may venture, I think, to express the views of the radical opponents of the conventional school subjects as follows: Children in schools will develop naturally and with the least waste of effort if they take the facts of life as they come and build up their ideas into inclusive systems in which experiences and the explanations of these experiences are arranged in the order of practical life rather than in the artificial order dictated by traditional school subjects.

Before accepting this plausible theory of education, we should, I believe, consider certain psychological principles which are no less valid than the laws of association. There is a familiar fact of mental life, which anyone can verify by observing his own experience, described by the psychologists in the statement that the span of an individual's attention is limited. Nature has emphasized the advantages of a limited span of attention by so constructing the human eye that the area of clear vision is sharply circumscribed. As I read this paper, there are coming to my eyes images of the walls of this room and images of people and objects which are only remotely related to the particular task on which I must concentrate, namely, the task of reading the words before me. A large area of my field of vision is quite nebulous and vague, while in the narrow limits of clear

vision are certain conspicuous items which are raised to a level of vividness in my consciousness that makes them for the moment the major objects of my thought and behavior. The outlying parts of my field of vision serve a useful purpose. They would cause a shift in my attention if a disturbance should arise which would make reading less essential than it now is for the purposes of my life.

Another illustration of the limited span of attention is seen in the fact that, when one is listening to a discourse or is occupied in reading an exciting story, the noises which continually arise in the environment are neglected. One could multiply illustrations without limit.

If one applies what has been said about the span of attention to school work, one begins to realize why it would be difficult, for example, to study at one and the same time so complex a series of facts as the histories at a given period of all the different countries. While one is thinking about what happened in the United States in the year 1860, one has only a vague peripheral vision, or no vision at all, of what was going on contemporaneously in Turkey or China. One can, it is true, think of the United States and then shift the center of attention to other parts of the world. The successive clear visions can fortunately be kept in memory, and the mind can, if it is very active, combine into a kind of coherent and more or less comprehensive panorama the images which come one by one. There is, however, always a point where the law of diminishing returns begins to assert itself. Too strenuous efforts to secure comprehensiveness result in lack of adequate concentration on particular items and produce a fatal blurring of experiences.

The point which is here being stressed is of great significance for education because broad comprehensiveness is especially difficult for immature minds. The individual thoroughly trained in a certain field can look from point to point and in a sweeping series of glances apprehend successively many items and at the same time note the relations between these items. The beginner in any study must move more slowly and must concentrate longer on each particular item. He holds in mind complex groups of facts with great difficulty. One of the most important functions of education is to develop breadth in systems of experience, but comprehensive systems of ideas are built up by first constructing comparatively simple systems.

The teacher aware of the limitations of attention and of the desirability of cultivating comprehensiveness of thinking finds that one of his most delicate tasks is the maintenance of a proper balance between concentration on items of knowledge and development of breadth of experience. The formula which should be adopted is easy to express in words but difficult to apply in practice. It can be stated somewhat as follows: Begin with young pupils and require, first, concentration. Proceed, then, to develop broader and broader combinations of ideas.

Perhaps the difficulty of applying this formula can be best illustrated by referring to present-day instruction in the natural sciences. The natural-science textbooks are full of facts. These facts may be described as the results of science. When presented in serial order, these facts reveal to the mind which is prepared to recognize relations the continuity of scientific understanding. To the pupil in the high school confronted with fact after fact, the task of sheer concentration on successive items is so exacting that there is no mental energy left for the apprehension of relations. Science-teaching in the schools of this country is often nothing but a hasty review of successive, unrelated facts.

The same charge can be made of the teaching of other subjects. Rhetoric in the high schools is often a series of rules. To the mature individual who really understands the nature of language, rhetoric becomes a statement of fundamental laws all of which fit together into a consistent scheme. Pupils often have difficulty in sympathizing with the enthusiasm of their teachers for their specialties. Enthusiasm is a product of comprehension of relations and comes only when intellectual maturity has been achieved. To one who does not grasp the relationships which make up a given intellectual scheme, there is no ground for enthusiasm—hardly ground for tolerance.

So important is the principle of limitation of demands on attention in determining the procedures which the schools should adopt that we may well take up two examples of such limitation drawn from ordinary life. When one first attempts to drive an automobile, one has an oversupply of experiences. One has hands and feet; one sees and feels the steering wheel and the pedals. One is aware of the pavement, of trees, of telegraph poles, and of cars on the highway.

The wise instructor in automobile-driving tries to simplify the situation by taking his pupil out on some wide, little-traveled road and by calling attention one by one to the adjustments involved in driving.

Another illustration can be found in a novice's efforts to swim. One never realizes how much experience a body of water can afford until one is immersed in it and is bewildered in the effort to move in appropriate co-ordination one's arms and legs, which suddenly seem to be altogether unmanageable.

Education can learn from the experiences described in the preceding paragraphs and from thousands of others that systems of experience must at first be simple if they are to be mastered. It is simpler, when one is thinking about number relations, to build up a system of number ideas all of the same general type than it is to think sequentially of number, tools, boards, and furniture. It is easier, when one is thinking about cities situated on harbors, to continue to study geography than it is to plunge at once into the consideration of wars and dynasties.

The conventional school subjects are comparatively simple systems of like ideas. They have found their places in the scheme of education because they make sequential thinking by novices easy. Conventional subjects are sometimes open to the criticism that they make life seem too simple because they deal at any one time with only one abstract phase of life. Life involves geography, but it also involves arithmetic and language. The school is a place where the complexities of life are taken up one after another rather than in the total patterns in which life presents them.

Do the foregoing statements lead to the conclusion that there should be no combined courses or general survey courses? I believe not. On the contrary, there is in everything that has been said the strongest implication that general survey courses are the best courses which can be offered to young people as soon as their span of attention has been developed to the point where they will not be confused by an assemblage of somewhat diverse ideas. General survey courses emphasize relations. It can safely be prophesied that the high schools will have more of them in the future than they have had in the past. General mathematics will come in this country, as

it has in Europe. General language will replace the smattering in single foreign languages which has been one of the chief defects of high-school education. General science will ultimately survive in spite of the opposition of extreme advocates of specialization. All the trends in secondary education are in the direction of general, synthetic teaching. Whether general survey courses can properly be developed in the elementary-school grades is a question which can be answered only on the basis of actual experimentation. Already geography is taking on in the lower grades the form and character of a synthetic study in which the relations of man to his physical environment are treated on an extensive scale. Arithmetic has always been something of a general survey course. This fact has frequently been overlooked. Arithmetic has included insurance, commercial relations, constructive geometry, and other topics. The trouble has been that little or no effort has been made to cultivate in the minds of pupils any knowledge of insurance and the other fields of experience related to number. The complex system of ideas has been present. It has not been intelligently taught.

There is a long road ahead before the schools will reach the goal of a well-organized curriculum including all that pupils ought to learn. At the present time the habit of teachers is to add subjects to the conventional series rather than to undertake the strenuous task of fitting together in new systems of instructional materials the ideas which modern civilization makes it desirable for children to learn. Reorganization is necessary on an extensive scale if economy and comprehensiveness are to characterize school work. There must be insight into the nature of immature minds and recognition of the advantages of concentration on the one hand and of breadth of experience on the other hand.

One of the strongest motives for reorganization of the curriculum is the necessity which everyone recognizes of finding some way of injecting into the school program a large body of new material which will produce in pupils what may be called "social-mindedness." There must be reconstruction of teaching not by adding to the present program of studies a new course in civics but by socializing everything that is taught. In arithmetic, for example, ways must be found of making pupils competent in calculation and at the same

time aware of the social importance of precision. In language-teaching, ways must be found of cultivating in pupils correct and forcible expression and at the same time of leading them to appreciate the social heritage which has been handed down to them in a highly developed language.

In the light of what has been said, let us consider seriously the contention of the reformers that the materials of instruction must be drawn from the lives of children and must be related directly to their commonplace experiences. The so-called "activity program" and the project method take up daily experiences in the order in which they arise. The child-centered school begins with the interests and abilities of the children, not with selected and organized systems of ideas. It is difficult to evaluate the theories of the radical reformers because these theories are seldom, if ever, fully adopted and put into actual operation in schools.

When one sees children active under the guidance of a thoroughly competent teacher who understands the subtle art of leading without ostentatious emphasis on the authority of superior intelligence, one is in favor of stimulating activity and of centering the whole program on the progress of the pupils. When, on the other hand, one sees aimless running hither and thither and the petulant impatience of spoiled children who have never been trained in systematic concentration on any system of ideas, one is tempted to suppress activity and to administer with emphasis and, if necessary, with physical accompaniments the requirement of definite adherence to limited ranges of intellectual effort. The antithesis is not, I believe, between activity on the one hand and system on the other or between artificial drill on abstractions and unlimited concession to childish caprice. The antithesis is between wise guidance of immature minds and complacence with accidental chains of unarranged associations.

I take it that the most extreme advocates of a new program for the schools in which all the conventional subjects are abandoned agree with the rest of us that in the long run every individual should write a legible hand and should be able to count and to read. I suppose that all agree that everyone should use the English language with force and clearness. The agreements in these cases are with

respect to ends. The only disagreements are with respect to methods of reaching the ends recognized as desirable.

As I study psychology, I am impressed with the fact that the human mind is endowed with one virtue which makes it independent of the accidents of ordinary experience. The mind is capable of orderly arrangement of the images that are brought into it by the senses. When the mind deals, for example, with the multitudinous facts of space, it penetrates beyond the variations in size and materials and arranges forms under such orderly categories as triangles and rectangles. When it deals with the animal kingdom, it is not limited to the kind of activity which Adam is reported to have performed when he gave each animal a name. The scientist has developed through long study the insight which leads him to classify animals as vertebrates or invertebrates. When he has arrived at a scheme of classification and has pursued his studies further, the varieties of animal life all fall for man's thinking into an orderly procession. This rearrangement of the animal world could never have been achieved if the mind had not detached itself from practical experiences and concentrated on like systems of ideas.

The kind of arranging of the world which is illustrated in the examples cited is not the result of the thinking of one individual. Long generations of men have tried one method and another of arranging experiences. Some of the early methods were satisfactory within limits but broke down when experiences expanded. Today we are able to employ certain schemes of classification which have been refined by the long, co-operative labor of many generations. These schemes of classification are the conventional subjects taught in the schools. They would hardly be reached even in their rudiments by the individual if he were left to his own unaided devices. They are mature schemes which have proved useful by serving many generations in their efforts to comprehend experiences that on first contact seem to be hopelessly chaotic.

I take it that no one wants to throw away the advantages of co-operative thinking. I cannot help concluding that in their sentimental enthusiasm for the personalities of little children many theorists have been less impressed than they should be by the value of the accumulated intellectual capital of the race. I do not suppose

that the most articulate advocate of the activity program will ever go so far as to insist that each child build himself the house in which he is to live. A house built by one's elders is material capital which is handed down and is gladly and properly accepted by the individual. I do not suppose that bridges are to be torn down so that each generation may come to appreciate the difficulties of fording streams. Bridges are forms of material social capital. Children will for better or for worse use money and will submit themselves to the control of government. Why, if all these dependencies of children on the race are valid, should one deny children the right and even the duty to adopt the orderly mental arrangements that the race has given to the experiences of life? Arithmetic is orderly. Buying and selling, measuring, and dividing one's possessions are orderly only when they fit into a scheme of thinking which at first seems artificial.

One must, of course, be on one's guard against the danger which I suppose is the real cause of the phobia from which certain modern critics of school subjects are suffering. One must not become so absorbed in abstract, orderly schemes of thinking that one fails to use them in real living. Zoölogy was not developed for its own sake; nor was arithmetic or the English language. The formula of education that issues from the view which this paper is defending is that children should be helped to arrange and organize their experiences as early and as economically as possible. Children's life-experiences are indeed the materials on which their minds operate, but there is no justification for the assumption that experiences are the sources of the most useful schemes of classification and treatment of experience. Instead of putting children's experiences and activities at the center of the school program, the educational formula which I am advocating treats children's experiences as raw materials to be arranged in systematic order, the means of the arrangement to be derived from the intellectual capital of the race.

I see no reason why many different theories of education cannot be reconciled on the platform which this paper has attempted to erect. Let the extreme advocate of the activity program experiment. The only demand that we shall make on him is that he show definitely and clearly that his pupils are capable in the end of systematic,

orderly thinking. The demand imposed on the advocate of the conventional subjects is the converse: His pupils must be able to utilize in the intelligent management of their practical lives the systems of thinking which they acquired in the schools.

To one who is not an adherent of the extreme theory that the school should be child-centered or of the extreme theory that school work should be primarily drill on abstract sets of ideas, it seems as though a rational program of studies could be easily developed by a group of educators who are willing to stop discussing their antagonisms and devote themselves to the reconstruction of the curriculum on the basis of a study of psychology and of the intellectual heritage handed down by the race.

AN EXPERIMENT WITH TWO METHODS OF ESTIMATION OF THE QUOTIENT

FOSTER E. GROSSNICKLE
State Teachers College, Jersey City, New Jersey

It is well known that there are many ways to estimate the quotient in long division when the divisor is a two-figure number. In a former article[1] the writer showed that ten methods for estimating the quotient are used in textbooks in arithmetic and that many individual methods for finding the quotient figure are also used by adults. In the study cited it was found that the "apparent method" is the method most widely used by students in teacher-training schools, although the number of teachers of mathematics in the schools sampled who preferred the apparent method was much less than the number who preferred the increase-by-one method. In the apparent method the tens' figure of a two-figure divisor remains unchanged in estimation of the quotient figure regardless of the value of the units' figure. In the increase-by-one method the tens' figure of the divisor is not changed when the units' figure is 5 or less, but, when the units' figure is 6 or more, the tens' figure is increased by one.

Although many methods are employed for finding the quotient figure, no published experimental evidence is available to justify one method in preference to another.

In order to determine whether there is any advantage in using the apparent method rather than the increase-by-one method or vice versa, the writer during the year 1934–35 conducted an experiment in two school centers near Jersey City. These two school centers offer about the same type of educational program, as measured by the ratio of expenditures to the average daily attendance for the year considered, namely, $95 and $101, respectively. As these two

[1] Foster E. Grossnickle, "Methods of Estimating the Quotient in Long Division Used by Teacher-training Students," *Elementary School Journal*, XXXV (February, 1935), 448–53.

municipalities have about the same populations, it was convenient to use about the same number of subjects for each of two groups of fourth-grade pupils. In one group 216 pupils were available for experimental purposes; in the other group, 233 pupils. The pupils in each group were taught by seven teachers. No attempt was made to equate the teachers because of the minor part that the teacher was to play in the experiment.

The courses of study in these two school centers provide that division with a one-figure divisor be taught in the first half of Grade IV, and division with a two-figure divisor in the second half of the grade. In order to make sure that each group would attain about the same accomplishment in division with a one-figure divisor, the writer supervised the teaching of the subject, beginning the first week in October. At the beginning of each week every pupil in this study was supplied with all practice exercises for the week. The class teacher distributed the practice exercises, and both pupils and teacher then read the instructions. At the end of the week the exercises were collected and scored under the writer's supervision.

EQUATING THE TWO GROUPS

In the school center in which the ratio of expenditures to the average daily attendance was $95, the apparent method was taught; in the other school, the increase-by-one method. The pupils used in this investigation were equated according to intelligence quotient and ability with the one hundred basic facts in subtraction, with the ninety basic facts in multiplication,[1] with the ninety even facts in division, and with the use of a one-figure divisor in long division. In each case a pupil's score in one group was paired with a corresponding score in the other group. When an intelligence quotient in one group was matched with a corresponding quotient in the other, the exact value could not always be obtained, but the ratings were close. The intelligence quotient was found by the use of the National Intelligence Test, Scale A. The mean scores of the groups on the matching criteria used are shown in Table I.

[1] There are some textbooks in arithmetic which refer to one hundred basic facts in multiplication. The reason for selecting ninety is shown in a former article: Foster E. Grossnickle, "Still More Ado about Zero," *Elementary School Journal*, XXXIII (January, 1933), 358–64.

PROCEDURES OF THE EXPERIMENT

The work with a two-figure divisor began on February 5, 1935, and was continued until June 4, 1935, a total of seventy-six teaching days. As in the case with one-figure divisors, all the practice exercises were supplied by the writer. The practice material, with suitable instructions, was delivered to each teacher at the beginning of the school week. At the end of the week these papers were collected and scored under the writer's direction and were then returned to the

TABLE I

MEAN SCORES ON MATCHING CRITERIA OF EQUATED GROUPS TAUGHT TO USE APPARENT METHOD AND INCREASE-BY-ONE METHOD OF ESTIMATING LONG-DIVISION QUOTIENT

Criterion	Number of Pairs	Mean of Group Using Apparent Method	Mean of Group Using Increase-by-One Method
Intelligence quotient	140	105.12 ± .755	106.40 ± .648
Ability with 100 subtraction facts	159	99.50 ± .090	99.50 ± .090
Ability with 90 multiplication facts	130	88.63 ± .127	88.63 ± .127
Ability with 90 even division facts	133	89.38 ± .114	89.38 ± .114
Ability in long division with one-figure divisor	142	3.16 ± .202*	3.16 ± .202*

* Mean number of errors on the test.

pupils, together with new practice material for the week following. Every week the correction by the pupils of the scored errors and the accomplishment of the new work required about three or four periods of thirty-eight minutes each. The remaining period or periods were used by the teacher for any phase of number work not related to division and its concomitant processes. However, no drill in subtraction, multiplication, or division was given except as directed on the practice exercises or for correction of these exercises. When a scored sheet had been given to a pupil and it showed no errors, the paper was collected by the teacher and was returned to the writer's files. If errors were disclosed on the practice sheet, these errors were corrected by the pupil before the paper was collected. Every pupil checked each example by multiplying quotient and divisor and adding the remainder to that product. There was no attempt to motivate the work except to mark a word of encouragement on the corrected paper which was returned to the pupil.

The practice exercises were made to provide adequate drill when the quotient figure is 5 or more. From an examination of textbooks in arithmetic Stephenson found that the bulk of practice is for a quotient figure smaller than 5.[1] He recommended that at least 50 per cent of the practice should be for quotient figures of 5 or more. In the present study every two-figure divisor except the division demons (13–18) was used, and every figure appeared in the quotient. There were 450 estimations in which the quotient figure was 5 or more, and in 474 estimations the quotient figure was less than 5.

Four tests were given to each of the two groups: (1) The first test was administered at the beginning of the experiment before any practice had been given with a two-figure divisor. This test consisted of easy estimations in which the quotient was self-evident, as in the example $24\overline{)264}$, or in which the estimated quotient was the true quotient. (2) The second test was given at the end of thirty-five days of teaching. In this test the estimated quotient was the true quotient. All zero types in the quotient were included. (3) The third test was given after eighteen days more of teaching and practice. This test consisted of examples in which the true quotient was the estimated figure or one less than the estimated figure. (4) The fourth and final test was given after twenty-three days more of teaching and practice. Difficulties of estimation of all types were included in this test. The time for the tests was determined by the results from the practice exercises. When the majority of the pupils turned in perfect papers on a certain type of estimation, the test on that phase of estimation was given.

Both groups were given the same practice exercises until after the third test, or at the end of fifty-three days of teaching. The work consisted in finding the quotient when the true quotient is the estimated quotient or one less than the estimated figure. In the latter case no examples were given in which this correction could be avoided if the increase-by-one method were used. Thus, an example of the type $47\overline{)172}$ would not have been included because the true quotient is the estimated figure when the increase-by-one method is used. If the apparent method is used, the true quotient is one less than the estimated figure. However, in the example $34\overline{)226}$ the true

[1] Walter D. Stephenson, "An Objective Method of Analyzing Long-Division Examples," p. 33. Unpublished Master's thesis, University of Iowa, 1934.

quotient is one less than the estimate by either method of estimation. For the remaining twenty-three days of teaching and practice the group using the apparent method was given practice in making the quotient one, two, or three less than estimated. The other group was shown how to correct the quotient figure by making the estimated figure one or two less in some cases and one or two more in other cases.

The final test is given below. This test was divided into two parts. Part I was given on June 4 and Part II on the following day. No time limit was imposed on the test nor on any of the practice exercises. This test contains all the difficulties of estimation which the writer considers possible when the divisor is a two-figure number, except in the case of the division demons (13–18).

PART I

a. $23\overline{)575}$	*b.* $35\overline{)14725}$	*c.* $47\overline{)2868}$
d. $59\overline{)3845}$	*e.* $94\overline{)6476}$	*f.* $77\overline{)7086}$
g. $24\overline{)1824}$	*h.* $56\overline{)5040}$	

PART II

a. $28\overline{)1832}$	*b.* $54\overline{)3128}$	*c.* $26\overline{)2376}$
d. $36\overline{)1476}$	*e.* $46\overline{)2439}$	*f.* $27\overline{)21762}$

RESULTS OF THE TESTS

Two scores were determined for each of the four tests used in this investigation. One score is known as the "correct score" and the other as the "estimation score." The correct score is the number of correct figures in the quotient. Thus, if the quotient given to the example $24\overline{)563}$ is 23, with 11 remaining, the correct score is 3 since both quotient figures and the remainder are correct. The estimation score represents the number of correct estimations in an example.

$$\begin{array}{r} 205,\ 4\text{ (remainder)} \\ 24\overline{)5924} \\ \underline{48} \\ 124 \\ \underline{120} \\ 4 \end{array}$$

In the previous example the estimation score is 2. The final remainder is not considered in the estimation score. In the example on the left the estimation score is 3, but the correct score is 1. Giving both the correct score and the estimation score makes it possible to de-

termine whether there is a tendency to make more errors in computation by one method than by the other.

The mean scores for the two groups are given in Table II. Each score on the test was assigned its absolute or quantitative value. Thus, a score of 21 means everything from 21.00 to 21.99.

Two outstanding facts may be observed in Table II: first, the high degree of accuracy attained by both groups in the use of a two-figure divisor in long division; second, the small differences between the mean scores of the two groups. To determine whether the difference between two corresponding mean scores for each group is a chance or a significant difference, the difference must be compared with its probable error. When this difference is at least four times its probable error, there is more than a chance difference between the relative mean accomplishment of the two groups. The ratio of the difference to the probable error of the difference, shown in the last column of Table II, indicates that there was only one significant difference between the mean scores of the two groups, namely, the difference for correct scores on Test 4 when the two groups were equated on the basis of intelligence quotient. The small ratios given in the last column indicate that there is no appreciable difference in the relative merits of the two methods of estimating the quotient. Although the mean differences between the two groups in Test 4 always favored the apparent method, in all except the one case cited the differences were too small to represent anything but chance differences.

Further, none of the data showed significant differences between the two groups on both correct scores and estimation scores. Thus, the conclusion is warranted that one method is about as effective as the other in producing both a correct score and an estimation score.

Since there was no consistent significant difference between the mean scores for the two groups, consider the mean scores for Test 1. As the pupils took Test 1 before receiving any instruction on a two-figure divisor, these means show that there was a decided transfer from ability to use a one-figure divisor to the use of a two-figure divisor for easy estimations.

The average accomplishment with a two-figure divisor was satisfactory, as was also the ability with a one-figure divisor. Table I

TABLE II

Comparison of Achievement on Four Division Tests of Equated Groups Taught To Use Apparent Method and Increase-by-One Method of Estimating Long-Division Quotient

Test*	Mean of Group Using Apparent Method	Mean of Group Using Increase-by-One Method	Difference in Favor of Apparent Method	Diff. / P.E.$_{diff.}$
	Group Equated by Intelligence Quotient			
Test 1:				
Correct score (22).....	9.65±.480	8.58±.390	1.07±.617	1.73
Estimation score (17)...	8.23±.378	7.41±.318	.82±.494	1.66
Test 2:				
Correct score (32).....	31.20±.174	31.05±.190	.15±.258	.58
Estimation score (24)...	23.50±.126	23.50±.132	.00±.182	.00
Test 3:				
Correct score (30).....	29.53±.070	29.36±.123	.17±.142	1.20
Estimation score (21)...	21.03±.067	20.85±.069	.18±.096	1.88
Test 4:				
Correct score (39).....	38.88±.076	37.70±.240	1.18±.252	4.68†
Estimation score (30)...	29.97±.072	29.40±.165	0.57±.180	3.17
	Group Equated by Ability with Subtraction Facts			
Test 1:				
Correct score (22).....	9.42±.477	8.44±.355	0.98±.595	1.65
Estimation score (17)...	8.06±.366	6.98±.233	1.08±.434	2.49
Test 2:				
Correct score (32).....	30.90±.167	29.89±.198	1.01±.259	3.90
Estimation score (24)...	23.54±.114	23.57±.134	− .03±.176	.17
Test 3:				
Correct score (30).....	29.78±.118	29.10±.145	.68±.187	3.64
Estimation score (21)...	21.05±.067	20.84±.069	.21±.096	2.19
Test 4:				
Correct score (39).....	38.60±.218	38.32±.174	.28±.279	1.00
Estimation score (30)...	29.85±.145	29.56±.124	0.29±.191	1.52
	Group Equated by Ability with Multiplication Facts			
Test 1:				
Correct score (22).....	9.09±.515	8.20±.400	0.89±.652	1.37
Estimation score (17)...	8.04±.390	7.15±.330	.89±.511	1.74
Test 2:				
Correct score (32).....	30.30±.243	30.85±.241	− .55±.342	1.61
Estimation score (24)...	23.23±.157	23.36±.182	− .13±.240	.54
Test 3:				
Correct score (30).....	29.21±.224	29.24±.149	− .03±.269	.11
Estimation score (21)...	20.64±.155	20.87±.067	− .23±.169	1.36
Test 4:				
Correct score (39).....	37.98±.246	37.60±.260	.38±.358	1.06
Estimation score (30)...	29.36±.225	29.00±.206	0.36±.305	1.18

* The figures in parentheses in this column represent the highest possible scores.

† This difference is statistically significant.

TABLE II—*Continued*

Test	Mean of Group Using Apparent Method	Mean of Group Using Increase-by-One Method	Difference in Favor of Apparent Method	Diff. / P.E.$_{diff.}$
	Group Equated by Ability with Even Division Facts			
Test 1:				
Correct score (22).....	8.64±.531	8.09±.430	0.55±.683	0.81
Estimation score (17)...	6.68±.383	6.71±.343	−.03±.514	.06
Test 2:				
Correct score (32).....	30.60±.211	30.88±.212	−.28±.299	.94
Estimation score (24)...	23.30±.134	23.55±.143	−.25±.196	1.28
Test 3:				
Correct score (30).....	29.42±.173	29.25±.136	.17±.220	.77
Estimation score (21)...	20.88±.114	20.86±.067	.02±.132	.15
Test 4:				
Correct score (39).....	38.67±.205	38.44±.164	.23±.263	.87
Estimation score (30)...	29.75±.137	29.33±.179	0.42±.225	1.87
	Group Equated by Ability in Long Division with One-Figure Divisor			
Test 1:				
Correct score (22).....	8.66±.306	8.38±.405	0.28±.508	0.55
Estimation score (17)...	7.24±.367	7.15±.275	.09±.459	.20
Test 2:				
Correct score (32).....	30.29±.222	31.25±.140	−.96±.262	3.66
Estimation score (24)...	23.04±.163	23.64±.092	−.60±.187	3.21
Test 3:				
Correct score (30).....	29.44±.164	29.14±.142	.30±.217	1.38
Estimation score (21)...	20.70±.125	20.72±.121	−.02±.174	.11
Test 4:				
Correct score (39).....	38.44±.230	38.01±.241	.43±.333	1.29
Estimation score (30)...	29.77±.174	29.30±.154	0.47±.232	2.03

shows that the mean number of errors on the division test for a one-figure divisor was 3.16±.202. This number of errors is lower than the number for any of the groups of students in Grades V-XV, inclusive, who had taken the same test in a previous investigation.[1]

The correlation was found between the correct score for Test 4 in this investigation and each of the five traits on which the two groups were equated. The highest correlation was between ability with a one-figure divisor and ability with a two-figure divisor. Comparing a

[1] Foster E. Grossnickle, "An Experiment with a One-Figure Divisor in Short and Long Division," *Elementary School Journal*, XXXIV (March, 1934), 504.

number of traits affecting success in long division, Beal[1] also found the highest correlation between ability with a one-figure divisor and ability with a two-figure divisor. These correlations furnish further proof of the advantage of using a one-figure divisor in the long form.

One more result should be noted. The results of this investigation do not substantiate the findings, or rather the recommendations, with regard to the age level at which division can be taught made by the Committee of Seven of the Northern Illinois Conference on Supervision:

> At the mental level of nine years ten months, which is approximately the fourth-grade level, considerably less than half the children have a chance of making a retention-test score of 80 per cent in long division, even if they have made a score in simple multiplication of 100 per cent, one in short division of 88 to 100 per cent, and one in subtraction of 100 per cent. Long division apparently should not be taught until a mental level of twelve years seven months, or well along into the sixth grade for children who are average or above in mental age.[2]

The average mental age of the pupils used in this investigation was nine years and seven months. Since this mental age was determined in October, it may be assumed that the average mental age in June would be about eight months more, or a total of ten years and three months. The average correct score on Test 4 on this investigation was 38.21 out of a possible score of 39 (39.0–39.9)—a retention score of about 96 per cent. Furthermore, this test included all the difficulties apparent in long division (except for the divisors 13–18, inclusive) according to the writer's judgment of these difficulties. Since the results do not agree with the findings of the Committee of Seven, the writer ventures to offer a plausible reason for the great variation in the two investigations. The sequence of difficulties in the investigations by the Committee of Seven may not have received the close scrutiny that was followed in this study. Another factor may have been the vigilant watch for errors in this study. Every pupil was required to solve all examples correctly before he could proceed to the next practice exercise. The results of this investigation show conclusively that pupils who have the mental age of the

[1] Ross H. Beal, "An Individual Instruction Unit in Long Division," p. 69. Unpublished Doctor's thesis, University of Iowa, 1932.

[2] Carleton Washburne, "Mental Age and the Arithmetic Curriculum: A Summary of the Committee of Seven Grade Placement Investigations to Date," *Journal of Educational Research*, XXIII (March, 1931), 226.

average fourth-grade pupil can be taught long division with a two-figure divisor.

SUMMARY AND CONCLUSION

This investigation was made to determine the relative merits of the apparent and the increase-by-one methods of estimating the quotient for a two-figure divisor. In two different school centers, one teaching each method of estimation, two groups were equated on the basis of intelligence quotient, ability with the one hundred subtraction facts, ability with ninety multiplication facts, ability with ninety even division facts, and ability with the use of a one-figure divisor in long-division form. After seventy-six teaching days in the two centers the following results were obtained: (1) There was no significant difference between the mean scores of the two groups taught by the two methods of estimation. Although in the final test the differences were in favor of the apparent method, these differences in most cases were too small to be significant. (2) There was no significant difference in the mean number of computational errors made when using the two methods of estimation. (3) Of the factors considered, that which correlated the highest with ability to use a two-figure divisor was ability with a one-figure divisor in the long form. (4) There is no discernible reason why division with a two-figure divisor cannot be learned in Grade IV when the pupil has attained a mental-age level of about nine years and seven months. This conclusion is contradictory to the findings of the Committee of Seven.

The results of this investigation do not warrant the recommendation that the apparent method of estimation of the quotient is superior to the increase-by-one method or vice versa. The writer is not suggesting that any particular method should be used to make long division automatic. It is probable that further experimentation with the effectiveness of various methods of estimation will show results about as inconclusive as are those derived from many reported experiments dealing with different methods of subtraction. Probably, therefore, the most effective research dealing with division by a two-figure divisor consists in determining (1) the correct sequence of difficulties of the process and (2) the right kinds of practice exercises essential for overcoming these difficulties in the most effective manner.

CULTIVATION OF LEISURE ACTIVITIES

WILLIAM C. REAVIS
University of Chicago

Public education in America has, throughout its entire history, emphasized training for work almost to the exclusion of training for leisure. This emphasis in the early Colonial schools was not surprising, for the life of the pioneer was hard and there was little leisure either among the young or the old. The Colonial elementary school taught the bare rudiments of an education—reading and the elements of religion; the secondary school sought to give a few boys a knowledge of Latin grammar which would admit them to college; and the college undertook the training of a still more select group of boys for services in church and state. At each of the three educational levels the youth received rigorous training in memorizing processes. There was little motivation other than reproof, punishment, and the awe of failure.

These early schools reflected the life of hardship and sacrifice of the colonists. The teachers sought to inculcate in the scholars the same qualities of character that were possessed by the pioneer settlers. The work of the settlers of a Colonial community consisted mostly in drudgery. There was little thought of leisure and little time given to it other than worship on Sunday in the church. Even the worship took on the aspects of the settlers' hard lives. Since many of these pioneers became martyrs to Colonial hardships, it was natural that their sacrifices should be idealized by those who survived and that these ideals should be imparted to the young through the homes, the churches, and the schools. Industry and hard work were exalted as ideals, while idleness and play were regarded as devices of Satan. The Colonial schools thus sought to rival in severity and endurance the hard lives of the adult members of the community who made the schools possible.

In the course of time the pioneer began to triumph over hard

conditions in his struggle for existence. He gradually acquired a reserve of property and resources, which protected him against emergencies and enabled him to find some relief from the constant drudgery imposed by primitive conditions. He began to aspire to something better for his children. As he looked backward on his own hard life and contrasted the drudgery with the enjoyment experienced from his accumulated reserve, he wished to spare his children some of the hardships which he had endured. The wish became the parent of a thought which has gradually developed into a powerful principle in American life. Now, every person, whether a parent or not, desires to spare the young during the period of childhood from the bitter experiences imposed by the responsibilities of adult life.

Private secondary schools were first established to cater to the desire of the American citizen that his children be trained for the worthy use of leisure as well as efficient work. As a result the country from 1800 to 1860 experienced a development in private secondary education which has never been equaled in any country in the world. Private secondary schools, however, were more or less exclusive; they could not be enjoyed by all the children of all the people. It was therefore inevitable that the private secondary school should give way eventually to a more democratic institution —an institution that should place opportunity for liberal training within the reach of all.

The American public secondary school has become the concrete expression of the desire of citizens in general for the training of youth in leisure pursuits as well as in work. The idea has been slow in finding its way into public-school practice, but at last it may be said that public schools at all levels recognize to some extent the demand for training in the worthy use of leisure and the importance of such training in a democratic society.

Changes in the economic and the social life of the American people have resulted in a gradual decrease of the hours given to productive labor and a corresponding increase in the time available for leisure. Adults whose training in the worthy use of leisure has been neglected find themselves in an anomalous situation: they have nothing to do and yet possess an abundance of time in which to do

it. The condition has tended to create in such persons a state of personal demoralization. This situation has become a national problem as gainful employment has decreased in recent years.

Among the youth still of school age the state of demoralization has not been so great as among adults because of the greater opportunities available through the school for the profitable use of leisure and because of the training received through the school in the worthy use of leisure. In communities, however, where the school has not sensed its responsibility for the cultivation of leisure-time interests and the development in the children of resources for creating leisure occupations for themselves, the demoralization among the children has been even greater than that among the adults.

Some of our most serious national problems involving both youth and adults can be traced to the failure of our institutions to train properly for the use of leisure. The results of our dereliction are apparent, for example, in the reckless use of the automobile as an implement of pleasure without regard for the rules of the road. Partly through high-pressure salesmanship and partly through the desire to secure pleasure from increased leisure time, there have been placed at the disposal of the American people approximately ten million new passenger automobiles and sixteen million used automobiles and trucks in the last five years.[1] During the last year for which statistics are available (1935), 1,180,000 persons were temporarily disabled, 105,000 were permanently disabled, and 37,000 were killed in automobile accidents.[2] The deplorable aspect of this distressing situation is the fact that over three-fourths of the motor-vehicle accidents involve privately owned passenger cars and the further fact that most of the accidents are directly caused by disregard for the rules of the road. Some of the causes of the accidents were: driving too fast, 23 per cent; driving off the road, 11 per cent; violation of right of way, 26 per cent; driving on wrong side of the road, 16 per cent; and failure to signal and improper signaling, 5 per cent.[3] In the light of such facts the duty of society

[1] *The Chicago Daily News Almanac and Year Book for 1937*, p. 436. Chicago: Chicago Daily News, Inc.

[2] *Ibid.*, p. 619.

The World Almanac, 1937, p. 322. New York: New York World-Telegram.

in general, and of the school in particular, is clear. We are compelled to protect ourselves both by law and through instruction from the reckless use of our own leisure-time devices.

Since American life is so ordered at the present time that more leisure time than ever before and more ways of using it are available for everyone, the task of society is to provide training which will enable individuals to discriminate between worthy and unworthy uses of leisure. This discrimination will not prove satisfactory if the training consists merely in the vicarious experiencing of the possible uses that can or cannot be made of leisure time. Training, to be effective, requires fixing through practice; the pupil's interests must be developed through actual experience and the subjective standards needed both in evaluating the opportunities available for leisure and in creating self-satisfying leisure activities must receive attention both at school and at home.

The schools were fairly well launched on a program of training for leisure activities at the outset of the economic depression. Educators generally recognized the fact that the wide distribution of economic prosperity made imperative increased training in the use of leisure. Extra-curriculum activities were enlarged, libraries were extended, playgrounds were increased, and athletic programs were expanded. Churches even vied with schools in providing these leisure-time experiences for the young. The result has been a great enlargement of the interests of children at all age levels. These interests have been reflected in improved work in the classrooms and in better citizenship in school and community.

On the whole, much progress has been made in training for leisure even during the depression years, in spite of the vigorous demands of certain taxpayer groups for economy in public education. Strange to say, these demands have been aimed particularly against the recreative and leisure-time activities of the school. Every economic quack in the country has delivered his tirade against the "fads and frills" in the schools. Each would train pupils solely for work when there is virtually no work for young people under eighteen years of age nor for millions of adults. In such a situation the immediate problem is the proper utilization of leisure by the unemployed, for they are demoralized by enforced idleness. Lacking training for

leisure activities, persons deprived of work tend to become mere idlers, without capacity or incentive to utilize the opportunities provided by the social order for profitable enjoyment and personal development. Little imagination is required to foresee the consequences to society if a large portion of the population is thrown into idleness indefinitely without the means of making adjustments to a surplus of leisure time. The remedy of those who would effect economy in education by eliminating training for leisure and concentrating solely on training for work would thus become the primary cause of social demoralization, which in turn would be conducive to inefficiency in work.

Since the objection to the training of the young in the worthy use of leisure time has been shown to be false, I shall proceed with the discussion of the proposition that training in leisure activities is a function of the modern school and that the task of the educator is so to organize the school program and the school environment that the end desired will be realized for the pupil. This plan does not mean, as some will no doubt suppose, that the school will either subordinate or greatly modify the function of training the pupil in the habits of efficient work. The program of the school must naturally be extended and improved if two functions of equal importance are to take the place formerly held by one. If, in addition to the multiplication of function, the problem of executing the program at a lower cost must be solved, it is apparent that the task of the modern educator calls for creative and constructive thought.

An examination of the program of the traditional school reveals much wasted effort and lost motion which can either be eliminated or redirected with good effect. For example, the traditional school, in its emphasis on work, set up an antithetical relation between work and play which resulted in the pupils' conceiving of work and play as opposite kinds of activity—the one to be endured during the hours of the school day, the other to be enjoyed whenever time or conditions permitted. This attitude toward work and play is one of the most deadly delusions of the human mind; it is responsible for the misleading maxim, "Work when you work and play when you play," often quoted to pupils to stimulate their efforts and to emphasize the antithetical nature of work and play.

This fallacy is the source of many of the school's worst errors. It is primarily responsible for the unfavorable attitude of innumerable pupils toward school as well as the unwise methodology of many teachers. If the fallacy is not corrected in the schools of today, our children will continue to be miseducated as in the schools of the past and the training received will prove inadequate for the conditions of modern life.

The school should teach, both by precept and example, that drudgery and play are opposite ways of performing work and that the chief difference between the methods is the attitude of mind of the individual toward his task. Work may be enlivened by the play spirit, and play may be deadened by the drudge spirit. The elimination of drudgery from the modern school makes possible both the accomplishment of a higher type of work and the enjoyment of wholesome play. Thus, the dual function of the school, training for efficient work and training for leisure, can be realized.

In recent years the schools at the elementary, secondary, and college levels have made progress in training for leisure activities through the development of so-called "extra-curriculum" activities. In the older schools these activities were usually outlawed, sometimes tolerated, but seldom encouraged. Today such activities are definitely encouraged and are systematically developed and directed in the better schools. Through activities the spirit of play is fostered and the values of proper training in play are secured. The extra-curriculum activities give a real savor to the school life of the pupil. They break the shackles of artificiality hampering those schools that train pupils solely for work; they provide the broadening and finding opportunities which aid the pupil in self-discovery and enable him to carry on his self-education in a natural and normal manner.

Educators very generally consider that extra-curriculum activities possess values for the pupil, such as the development of initiative, responsibility, and co-operation, training in the worthy use of leisure time, and experience in the active duties of citizenship. It is also the consensus of school principals that participation by the pupil in such activities increases the efficiency of his regular classroom work, that the experience acquired through participation in the activities enriches the background of the individual for the

appreciative studies, and that the association of pupil and teachers in the activities develops understanding and creates wholesome school morale. The principals further agree that the pupil, especially at the secondary level, will seek experiences in social activities whether the school provides them or not and that the problem of the school, therefore, becomes one of encouraging and directing activities which will provide a many-sided training for the pupil and will fit him directly for intelligent citizenship.

Since the modern school is concerned with the fullest education of the pupil, it must consider his total experience rather than a mere segment of experience, as was the case prior to the introduction of extra-curriculum activities. In the school of today, then, responsibility must be accepted for evaluating, regulating, and directing the social experiences of the individual both within and without the classroom. School officials and parents will avoid much trouble in their dealings with young people by seeking to discover the secret of the youths' enthusiasm for extra-curriculum activities. Principals of schools should know the values desired for the pupils through participation in the activities and should set up standards for the selection of activities that will insure the values sought.

Well-informed persons no longer question the importance of providing a balanced program of recreational and special-interest activities for young people of school age. Youth must have an outlet for its surplus energy. To provide an outlet under wholesome conditions is a function of modern education. Not to provide an outlet is misdirected education and false economy. Adequate provision by the school for proper recreation through extra-curriculum activities is the best preventive measure known for the social derelictions of young people.

The scope of the program of extra-curriculum activities in modern secondary schools is revealed by a national survey[1] of 224 schools selected because of their accomplishments in the development of leisure-time, nonathletic activities. For example, it was found that these schools carried on competitions with other schools in thirty-

[1] William C. Reavis and George E. Van Dyke, *Nonathletic Extracurriculum Activities*, pp. 129–33. National Survey of Secondary Education Monograph No. 26. United States Office of Education Bulletin No. 17, 1932.

two types of activities, such as debating, extemporaneous speaking, orchestral and band music, instrumental and vocal music, commercial contests, and competitions in various school subjects. The activities provided intramural practice in preliminary contests for 30,782 pupils and participation in interschool contests for 10,202 pupils. Tournaments and meets in local and state areas furnished participation in such activities for 6,875 pupils. Altogether, approximately 50 per cent of the pupils enrolled in the 224 schools participated in preliminary or final competition in 3,020 contests, tournaments, and meets of the nonathletic sort.

Similar participation is secured in various kinds of playground and athletic activities, which provide wholesome recreation for pupils individually and in groups at the elementary and college levels, as well as in secondary schools.

I do not want to give the impression that all pupils in the schools in the United States are receiving training in activities of the kind described. Unfortunately there are still too many schools of the pioneer type which regard education as bitter medicine to be dispensed by vigilant, awe-inspiring taskmasters. In such schools the pupils are experiencing education as involuntary drudgery and leisure activities as stolen sweets to be secured only through artful practices.

I should like to digress long enough to point out that in such schools most of our lay reformers, who would now restrict public education to the bare rudiments, received their training. Some of them have won success in life through the craftiness which they acquired in evading the drudgery of the school rather than through the habits of work which the school sought to develop. Like the self-made man who is prone to worship his "maker," they now idealize their early training and look on it as the educational panacea for the problems of the modern school.

In contrast with the training of that early school, consider the merits of the modern school, with its curriculum of tested worth; its wealth of library material; and its procedures, of demonstrated success, in developing the orderly use of mental processes in dealing with the problems of contemporary life. The pupil in the modern school is not only better grounded in all the fundamental processes

than was the pupil in the rudimentary school of a generation ago, but he is, in addition, prepared through training in the leisure activities to get more out of life and to give more to life. His intellectual interests are enlarged; skills and abilities in specific fields are cultivated; personal poise and self-confidence are developed; social understandings and conventions are acquired; and his capacity to use the worthy products of ordered society is developed. In a word, the modern school seeks to make every pupil an intelligent consumer as well as an efficient producer.

Not all modern schools have adequately solved the problem of training pupils in the worthy use of leisure time. Too many have been satisfied merely to provide schedules of activities and to require the pupils to pursue a certain number of activities without responsible guidance. Such a solution to the problem is unsatisfactory. It does not take into consideration the differences in the interests of pupils at various age levels or the differences with respect to sex, social background, and mental capacity.

The entrance of the school into the training of pupils for leisure activities is a great forward step in social progress and in educational history. Three hundred years of experience in public education should have convinced us that well-rounded training requires the direction and control of the out-of-school experiences of the pupil as well as the experiences of the classroom. The end result desired is seldom secured unless the school is organized as a social laboratory for the guidance of its pupils in practicing the precepts of the classroom both in school and in community.

The extra-curriculum program of the school should constitute the practice field in which the young citizen is privileged to acquire firsthand personal experiences as a functioning member of social groups. There he learns in a vital way the meaning of civic responsibilities and their relation to school life. Participation in activities is the only method of developing in the individual a genuine feeling for the responsibilities of group membership. Through thinking, feeling, and acting with a group as it performs its activities and seeks to realize its purpose, the individual is socialized, that is, made a functioning member of ordered society.

The school of today has a much greater responsibility for its

pupils than the school of earlier times. The social order in which the youth must find his place is vastly more complex than ever before. The increase in leisure time and the multiplication of uses that can be made of leisure time further complicate the adjustment of the youth to ordered society. The youth must be trained, not only to select between profitable and unprofitable forms of leisure, but also to determine the limit to which leisure activities may be carried without giving offense to his fellows or endangering their rights.

Obviously, therefore, training for leisure involves a much greater responsibility than merely enlarging the interests of the pupil and providing broadening and finding experiences. The social obligations and restraints of the individual must be integrated with his enlarging tastes and desires for leisure activities. In recent years the task of the school in this respect has increased in difficulty because of the conspicuous failure of other institutions to perform training functions in the use of leisure formerly carried on with considerable success. As a result, the school of today is called on to assume almost single-handed the responsibility for the development of appreciation on the part of its pupils for worthy leisure activities and the cultivation of worthy habits in the use of leisure time.

The problem presented to the school in the training of pupils as intelligent users of leisure offers a vigorous challenge to educators to break new ground in organization, administration, and instruction. Large-scale changes in these directions, however, can scarcely be expected to receive strong community support until successful beginnings have been made and public approval has been secured on the basis of the initial efforts. Since success in training for leisure is fundamental to social and economic welfare, the school must face its new responsibility with determination and without unnecessary delay.

"THE TEACHING OF READING: A SECOND REPORT"[1]

WILLIAM S. GRAY
University of Chicago

In the *Report of the National Committee on Reading*, issued in 1925 as the Twenty-fourth Yearbook of the National Society for the Study of Education, the committee recommended that subsequent yearbooks in this field should be published at frequent intervals. This suggestion was based on the conviction that problems relating to instruction in any field should be critically reviewed from time to time and recommendations prepared in harmony with changing needs and the results of classroom experience and scientific study. Accordingly, the Board of Directors of the society appointed an advisory committee in December, 1935, to consider the need for a new yearbook on reading and to prepare recommendations concerning its purpose and scope. After a deliberate study of recent trends and current needs, the committee heartily recommended such a yearbook and defined its major purposes as follows: "(*a*) to trace briefly the developments in the field of reading during the last decade and to identify the major problems which schools face today; (*b*) to provide in specific and nontechnical terms the information needed by teachers and school officers in reorganizing and improving instruction in reading; and (*c*) to provide, as a guide in the case of debatable issues, tentative suggestions formulated by groups of specialists after careful study." This statement of purpose, together with a tentative outline of the yearbook, was approved in principle in the early part of 1936, and the members of the yearbook committee were appointed.

The first task undertaken by the committee was to survey and to appraise the progress made during the last decade in improving the

[1] Comments on the Thirty-sixth Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Co., 1937. Pp. viii+442.

teaching of reading. In many respects the findings were gratifying. They showed clearly, for example, that the place of reading in the curriculum has greatly expanded and that the methods and materials used in teaching have improved rapidly. On the other hand, conditions were discovered which were not so satisfactory. For example, desirable reforms the theory of which has been widely accepted do not find expression in the reading programs of many school systems. Finally, certain needs and conditions have recently acquired new significance and merit careful consideration in any effort to improve the teaching of reading. For example, recent developments in educational theory and practice indicate clearly that reading programs should be better adapted to the needs, interests, and levels of development of children than they have been in the past.

As a result of the initial survey the committee recognized the opportunity and obligation to recommend an improved reading program which would retain current trends of established worth, which would endeavor to eliminate undesirable practices, and which would provide adequately for new needs. The committee believed that, if this purpose could be achieved, instruction in reading should continue to improve during the next decade even more rapidly than it has improved during the past ten years.

In attempting to meet this obligation, the committee first identified significant facts, basic principles, and assumptions which underlie the type of reading program that is now urgently needed. As presented in the Thirty-sixth Yearbook, these serve as a platform on which the recommendations of the committee are based. As summarized below, they are combined with the major constructive proposals made in the yearbook.

1. Whereas the broad objectives of reading have changed but little during the last decade, various social objectives have recently assumed increased significance, such as the development of social understanding and ability to use reading in the intelligent search for truth; the promotion of a broad common culture and a growing appreciation of the finer elements in American life; and the stimulation of recreational-reading interests that promote personal welfare and social progress.

2. If such aims are fully attained, children and young people

should acquire greater efficiency in reading than they have acquired in the past. Increased efficiency includes, among other things, increased accuracy and independence in recognition and comprehension, greater breadth and depth of interpretation, increased efficiency in the use of what is read, wider familiarity with the sources and values of reading materials, and greater discrimination and skill in their use. The committee believes that the challenging problems involved should be attacked with renewed determination in the immediate future. The need is especially urgent in the upper grades and the high school.

3. In the foregoing proposals reading is recognized as a phase of child development rather than as an end in itself. Accordingly, the types of activities and guidance provided should be in keeping with the learners' interests, needs, capacities, and educational attainments. The development of comprehensive reading programs which shall be in harmony with this principle and which shall insure consistent and well-ordered growth presents a challenging problem of first importance.

4. Until further evidence develops, the committee recommends the continued use of special periods for basic or developmental instruction in reading from the earliest grades to the university. In this proposal the reading period is conceived as a component part of a co-ordinated program of teaching. The committee recognizes that moderately satisfactory results have often been achieved under highly favorable conditions (where there were available capable learners, highly competent teachers, and abundant reading materials of appropriate types) without special periods for basic instruction in reading. Even in such cases specific guidance in reading has usually been provided in various ways.

5. The yearbook gives vigorous emphasis to the fact that teachers of every curriculum field should assume added responsibility in stimulating and directing the reading experiences of pupils. In the judgment of the committee, the greatest opportunity for promoting increased reading efficiency in the immediate future lies in an intelligent and a vigorous attack on the reading problems encountered in the different curriculum fields.

6. The fact is recognized that during recent years significant

progress has been made in the preparation of readable materials for pupils at various levels of advancement. The committee believes that progress in this direction should be greatly accelerated during the next decade. Especially urgent is the need for material in the various curriculum fields that can be read with ease and understanding by pupils of limited reading ability.

7. During the last two decades notable progress has been made in stimulating among pupils interest in recreational reading. As revealed by recent surveys of what young people read, vigorous effort should be made in the future to cultivate tastes and appreciations far superior to those generally exhibited today.

8. The increasing importance attached to wide reading in various fields emphasizes the need for better school and classroom libraries. The committee recommends that state and local school systems at once adopt policies which will insure a rapid increase in the amount of appropriate reading material available for class and individual use.

9. The results of investigations of individual differences point clearly (*a*) to the importance of improved techniques of studying the needs and progress of children and of selecting reading materials that are better adapted to specific individuals and groups and (*b*) to the importance of flexible plans of class organization and standards of promotion that provide longer periods of effort uninterrupted by failure.

10. The facts presented in the yearbook show that continuous diagnosis and corrective and remedial instruction are imperative at all levels. The committee recommends, however, that in the future adequate provision be made for poor readers as a part of the program of basic instruction in reading. The evidence available justifies the conclusion that through such provision the need for specialized remedial classes can be greatly reduced in the future.

Underlying most of the foregoing proposals is a broader conception of reading than has generally prevailed in the past. At times reading has been defined primarily as a process of recognizing printed and written symbols. On other occasions reading has been defined as a process of comprehension, including a clear grasp of the important elements of meaning in their essential relations. A third definition implies that reading is a much more inclusive process. It assumes

that the reader not only recognizes the essential ideas presented but also reflects on their significance, evaluates them critically, discovers relationships among them, and clarifies his understanding of the facts apprehended. The committee believes that any conception of reading which fails to include reflection, critical evaluation, and the clarification of thinking is inadequate. It recognizes that this broad use of the term implies that "reading" includes much that psychologists and educators have commonly called "thinking." The committee does not object if anyone wishes to make a distinction between securing ideas on the one hand and using them in thinking on the other. It takes the position, however, that, since efficient readers do think about what they read while they are reading it, the teacher should provide needed stimulus and guidance both in securing ideas from the page and in dealing with the ideas reflectively.

Inherent in the foregoing discussion is the fact that reading is a form of experience which modifies personality. As pupils comprehend accurately, interpret broadly, and apply what they learn wisely, they acquire new understandings, broader interests, and deeper appreciations. Thus, personality is continually modified and enriched through reading. The fact is well known that reading, as well as other forms of experience, may produce various kinds of reaction—fear, ambition, appreciation, action. Teachers should realize that such responses are often aroused without adequate understanding on the part of the reader and that there may be decision and action without due consideration of all the facts involved. A properly conceived and an intelligently directed reading program should reduce such responses to the minimum and should aid materially in developing a generation of citizens with social, stable, and enriched personalities.

In adopting the broad definition of reading which has been outlined, the committee recognizes that to provide a complete and detailed program for realizing all the values suggested is at present impossible. It is willing to accept the criticisms that arise from such limitations. The committee is unanimous in its judgment, however, that a broad definition of reading is essential if instruction is to provide adequately for contemporary needs. In the various chapters

of the yearbook many constructive suggestions are offered for improving current practice. Through creative effort in the classroom and laboratory, the program outlined should be improved and refined rapidly during the next few years.

The specific recommendations of the committee are presented in more or less detail in chapters iii–xiv, which bear the following titles: "The Place of Reading in the Curriculum," "The Nature and Organization of Basic Instruction in Reading," "Reading in the Various Fields of the Curriculum," "The Development of Reading Interests and Tastes," "The Materials of Reading," "The School Library," "Vocabulary Development," "The Improvement of Oral Reading," "Individual Differences and Their Implications with Respect to Instruction in Reading," "The Measurement and Evaluation of Achievement in Reading," "Diagnosis and Treatment of Extreme Cases of Reading Disability," "The Reorganization and Improvement of Instruction through Adequate Supervision."

In order to insure a broad consideration of the problems discussed in the yearbook, groups of specialists were associated with members of the committee in the preparation of the respective chapters. The function of each group was to advise its chairman concerning the scope and organization of the chapter for which he was responsible, to offer vigorous but constructive criticisms of the content of the chapter at various stages in its development, and to aid in formulating valid recommendations in the case of debatable issues. In view of the fact that the judgments of the members of a group often differed widely, the group chairman was authorized to formulate final recommendations, after considering carefully all the arguments and evidence presented. As a result some of the pronouncements do not represent the specific views of all who co-operated in the preparation of the chapter which includes them. The general plan adopted, however, had the unique advantage of providing the writers of the respective sections with critical judgments and constructive suggestions on which recommendations could be based.

The limitations of the yearbook will be obvious to all who read it critically. Owing to the brief period allowed for its preparation, it does not represent as finished a product with respect to form, organization, and consistency in viewpoint as the 1925 report.

Owing to limitations of space, it was not possible to make detailed suggestions concerning many phases of reading in which teachers need help today. Furthermore, certain important topics included in the original outline had to be omitted; for example, the training of teachers of reading. If the program recommended in the yearbook is applied widely in the near future, current types of pre-service and in-service training must be radically modified.

Although the 1937 report has many limitations, the committee believes that it represents a significant step forward. We say "a step" because we recognize that many of the recommendations cannot be carried out fully without additional study and experimentation. It is hoped, therefore, that the present report will be as successful as the Twenty-fourth Yearbook in stimulating productive research and constructive effort in classrooms. As a result of vigorous effort in both directions, instruction in reading during the next decade should increase steadily both in breadth and in efficiency.

SELECTED REFERENCES FROM THE LITERATURE ON EXCEPTIONAL CHILDREN

GERTRUDE HILDRETH
Lincoln School of Teachers College, Columbia University

ELISE H. MARTENS
United States Office of Education

The references in the following bibliography from the literature on exceptional children are classified as follows: publications concerned with (1) subnormal and backward children, (2) behavior and problem cases, (3) juvenile delinquency, (4) superior and gifted children, (5) blind and partially seeing children, (6) crippled children, (7) deaf and hard-of-hearing children, (8) delicate children, (9) speech defectives, and (10) general references. The references in the first four of these classifications were compiled and annotated by Dr. Hildreth; those in the fifth to the ninth classifications, inclusive, by Dr. Martens. Each of the two compilers supplied general references.

Subnormal and Backward Children[1]

226. Armstrong, Clairette P. "Some Mental and Social Inadequates," *Journal of Abnormal and Social Psychology*, XXX (October–December, 1935), 371–83.

In a survey of New York City schools three-fourths of the mental defectives in ungraded classes were found to have foreign parents. The author suggests that, in addition to enforcing laws excluding the feeble-minded, a law be enacted to admit only immigrants meeting the mental-ability standards of the general American population.

227. Athens, Ida G. "The Activity Program for Mental Defectives," *Ohio Schools*, XIV (April, 1936), 124, 157.

The entire curriculum in an Ohio school was integrated and activity projects were developed for mentally defective children. The instructional goals sought were satisfactory social adjustment and character traits.

228. Baller, Warren Robert. *A Study of the Present Social Status of a Group of Adults, Who, When They Were in Elementary Schools, Were Classified*

[1] See also Item 212 (Farley) in the list of selected references appearing in the April, 1937, number of the *Elementary School Journal*.

as Mentally Deficient. Genetic Psychology Monographs, Vol. XVIII, No. 3. Worcester, Massachusetts: Clark University Press, 1936. Pp. 165–244.

In a comparison of former special-class pupils over 21 years of age with intelligence quotients under 71 and normal adults matched for sex, nationality, and age, the special-class group was found to be economically, socially, and vocationally inferior.

229. BRILL, MOSHE. "Measuring Institutional Adjustment of Mentally Deficient Boys," *Journal of Applied Psychology*, XX (December, 1936), 736–47.

The Vineland Adjustment Score Card was found to differentiate reliably between adjusted and maladjusted boys in an institution for the mentally deficient.

230. CURTIS, FRANCIS D. "Specific Suggestions for Teaching Dull-normal Pupils," *School Review*, XLIV (September, 1936), 525–32.

A statement of twenty-four principles that apply to the instruction of dull-normal pupils in high school.

231. *Development and Progress of Special Classes for Mentally Deficient Children in Connecticut.* New Haven, Connecticut: Connecticut Special Education Association (31 Trumbull Street), 1936. Pp. vi+126.

Historical summary of special education in Connecticut. The work of the Connecticut Special Education Association is reported, and accounts are included of provisions for exceptional children in a number of cities in the state.

232. EARL, C. J. C. "The Affective-instinctive Psychology of Imbecile Children," *British Journal of Medical Psychology*, XV (February, 1936, Part 4), 266–78.

Mentally defective children differ from normal children in emotional maturity, affective-instinctive energy shown in attention and interest, low intelligence, physical maturity, and the frequency of abnormal trends.

233. HAMLEY, H. R., and OTHERS. *Education of Backward Children and Juvenile Delinquency in England and Wales.* London: Institute of Education, University of London, 1936. Pp. 104.

A symposium by several British authors. Part I of the report relates to the characteristics of backward and dull children, causes of backwardness, and the education of backward children. Part II considers psychological aspects of juvenile delinquency and surveys the problem.

234. MECKER, H. H. "An Experiment in the Adjustment of Retarded Upper-Grade Pupils," *National Elementary Principal*, XV (April, 1936), 162–65.

Adjustment programs, largely prevocational in character, were organized for retarded high-school pupils. The programs did not require the pupils to meet the academic performance standards expected of normal pupils.

235. MEIER, C. "Effect of Prizes in Increasing the Word Learning of Subnormal Children," *Training School Bulletin*, XXXII (December, 1935), 146–57.

In an attempt to determine the effect of incentives in learning words, several types of incentives were used with a group of children ranging in age from six to thirteen years and in intelligence quotient from 33 to 70. The author concludes that extrinsic and artificial means of stimulation will always have to be used but that their limitations must be recognized.

236. MURPHY, M. "The Birth Order of Mongol and Other Feeble-minded Children," *Human Biology*, VIII (May, 1936), 256–66.

Mongol children tend to be born late in the family, even in families of two to five children. The birth order of feeble-minded children not of this type is a matter of chance.

237. O'CONNELL, ELENOR S. "Meeting the Special Needs of the Subnormal Pupil," *Ohio Schools*, XIV (November, 1936), 342.

Describes the equipment, methods, and courses used in a special class composed of boys and girls under eighteen years old who were unemployed and could not fit into regular classroom work.

238. *Organization of Special Classes for Subnormal Children.* University of the State of New York Bulletin No. 1073. Albany, New York: University of the State of New York Press, 1935. Pp. 10.

A revision of former bulletins on the subject of special classes for mentally handicapped children. The suggestion is made that the curriculum for these children must provide a series of activities which do not increase too rapidly in difficulty.

239. *Reducing Pupil Failure.* Report of the Committee of the New Jersey Elementary School Principals' Association in Co-operation with the State Department of Education. New Jersey Elementary Principals' Association Bulletin, Vol. VIII, No. 1. Bloomfield, New Jersey: New Jersey Elementary Principals' Association (John P. Milligan, % Watsessing School), 1935. Pp. x+60.

Evidence of the extent of failure in New Jersey schools was collected, and educators throughout the state contributed suggestions for reducing failure. A summary of the literature relating to pupil failure is appended.

240. SMERLING, FRANK A. "What the Schools as Constituted at Present Can Do for the Low Ability Pupil," *High Points in the Work of the High Schools of the City of New York*, XVIII (June, 1936), 35–38.

The dull-normal pupil, constituting about 20 per cent of the high-school population, requires a type of curriculum radically different from that provided for normal pupils. The author recommends revision of the whole administrative structure of promotions and retardations with reference to physical and mental growth.

241. WALCOTT, FRED G. "New Methods and Objectives in Teaching Dull-normal Pupils To Read," *School Review*, XLIV (May, 1936), 348–61.

Large gains both in comprehension and in rate of reading were made by backward pupils in high school when a special program was provided for them. The author recommends earlier segregation of these pupils and a more intelligent differentiation of instructional procedure in the class unit itself.

242. WANGER, RUTH. "Unwillingly to School," *Junior-Senior High School Clearing House*, X (May, 1936), 535–38.

An attempt was made in a high school for girls to find course work suited to the abilities of the slow pupils. At the end of the year only one failure was reported.

243. WITTY, PAUL A. "Special Class Curricula for the Retarded," *Illinois Teacher*, XXIV (January, 1936), 132–34, 158.

Studies of the education of feeble-minded children are summarized by the author, who recommends that the education of the feeble-minded pupil should be child-centered. Describes the curriculum used at the Montefiore Special School, Chicago, which is based on a study of the activity preferences of retarded children.

BEHAVIOR AND PROBLEM CASES

244. ANDERSON, FORREST N. "A Mental-Hygiene Survey of Problem Indian Children in Oklahoma," *Mental Hygiene*, XX (July, 1936), 472–76.

Two hundred and thirty-five problem cases were studied by means of physical and neurological examinations, psychiatric interviews, and two or more psychological tests. The cases were found not to be representative of a cross-section of Indian children in the area studied.

245. *Behavior Problems in the Secondary Schools.* Summit, New Jersey: New Jersey Secondary School Teachers' Association (Charles H. Beek, President, % Junior High School), 1935. Pp. 32.

Describes behavior problems most frequently encountered in the secondary school. For each type of problem the causes and frequency are listed and discussed.

246. CAMPBELL, NELLIE M. *The Elementary School Teacher's Treatment of Classroom Behavior Problems.* Teachers College Contributions to Education, No. 668. New York: Teachers College, Columbia University, 1935. Pp. vi+72.

Overt actions interfering with order in the classroom or with the authority and purposes of the teacher are most frequently reported by teachers as important behavior problems.

247. LOUTTIT, C. M. *Clinical Psychology.* New York: Harper & Bros., 1936. Pp. xx+696.

Major emphasis is given to behavior problems, including problems related to mental deficiency, primary behavior problems, juvenile delinquency, conduct problems, speech defects, psychoneuroses, and problems correlated with organic disabilities.

248. LURIE, L. A., TIETZ, E. B., and HERTZMAN, J. "Functional Psychoses in Children," *American Journal of Psychiatry*, XCII (March, 1936), 1169–84.

Two per cent of the problem children studied in a child-guidance home presented symptoms of definite psychoses. Illustrative cases are given.

249. MARKEY, OSCAR B. "The Problem Child in the Nursery School," *Progressive Education*, XIII (March, 1936), 160–67.

The treatment of problem children in the nursery school involves a number of specific guidance techniques. Parent education is indispensable. Preschool experts are less concerned with the treatment of specific behavior signs than with an appreciation of the child's deeper needs.

250. MEEK, LOIS HAYDEN. "Behavior Problems in the School," *Teachers College Record*, XXXVII (January, 1936), 300–304.

Behavior problems are caused by conflicts between the child and the person who attempts to control his behavior. The traditional school organization conflicts directly with the natural activities of children. The solution of behavior problems lies in revitalizing the curriculum and methods of teaching.

251. MORGAN, JOHN J. B. *The Psychology of the Unadjusted School Child.* New York: Macmillan Co., 1936 (revised). Pp. viii+340.

The subjects discussed include defense mechanisms, memory distortions, daydreaming, fears, feelings of insecurity, instability, intellectual defects, and delinquency. Illustrations of cases are included.

252. NIFENECKER, EUGENE A. "Review of Departmental Experience in Dealing with Problem of School Maladjustment: Part I, Statistical Reference Data Showing School Background Conditions, Factors, Trends and Problems, 1900–1934." Publication No. 27. New York: Bureau of Reference, Research, and Statistics, Board of Education of the City of New York, 1936. Pp. 216.

A report prepared for the Joint Committee on Problems of School Maladjustment.

253. ROHRBAUGH, LEWIS. "The Backgrounds of Minor Transiency," *School and Society*, XLIII (April, 1936), 583–84.

An analysis of the reasons why minor transients leave home.

JUVENILE DELINQUENCY[1]

254. ABBOTT, GRACE. "Juvenile Court and a Community Program for Treating and Preventing Delinquency," *Social Service Review*, X (June, 1936), 227–42.

A discussion of the part that community agencies, such as schools, recreation centers, social workers, and the juvenile court, should play in delinquency prevention and treatment.

[1] See also Item 351 (Healy and Bronner) in the list of selected references appearing in the May, 1937, number of the *School Review*.

255. ADAMS, JANE; ARNOLD, MARJORIE; and WITMER, HELEN. "Recidivism among Juvenile Delinquents Examined by the Illinois Institute for Juvenile Research," *Smith College Studies in Social Work*, VI (June, 1936), 293–323.

Reports an investigation undertaken to determine the later behavior of a group of delinquents referred by the Juvenile Court in Chicago for examination at the Illinois Institute for Juvenile Research. The authors recommend a close study of personality trends and environmental situations to determine why some children and not others become recidivists.

256. ALPER, BENEDICT S., and LODGEN, GEORGE E. "The Delinquent Child in Pennsylvania Courts," *Mental Hygiene*, XX (October, 1936), 598–604.

Among 3,281 cases in the juvenile courts in 60 Pennsylvania counties the boys outnumbered the girls three to one. Other findings relating to probation and commitment are reported.

257. BARTLETT, EDWARD R., and HARRIS, DALE B. "Personality Factors in Delinquency," *School and Society*, XLIII (May, 1936), 653–56.

In a study of delinquent and non-delinquent groups, the delinquents showed greater emotional instability and had more difficulty in maintaining satisfactory home and social relationships than the non-delinquents.

258. BOWLER, ALIDA C., and BLOODGOOD, RUTH S. *Institutional Treatment of Delinquent Boys*, Part II. United States Children's Bureau Publication No. 230, 1936. Pp. vi+150.

An intensive case study was made of 751 boys who had been released from five state institutions five or more years before the study. Suggestions for the more effective handling of delinquents are given.

259. CARR, LOWELL J. *Organizing To Reduce Delinquency*. Ann Arbor, Michigan: Michigan Juvenile Delinquency Information Service, 1936. Pp. 60.

This report outlines the Michigan Plan for Better Citizenship as a program for delinquency prevention in the state. The need of clearing-houses for controlling juvenile conduct is emphasized.

260. CHARLES, CECIL M. "A Comparison of the Intelligence Quotients of Incarcerated Delinquent White and American Negro Boys and of Groups of St. Louis Public School Boys," *Journal of Applied Psychology*, XX (August, 1936), 499–510.

Intelligence tests of public-school boys in St. Louis between the ages of twelve and sixteen prove them to be superior to boys of similar ages in reform schools.

261. DUREA, MERVIN A. "A Quantitative Method for Diagnosing the Seriousness of Asocial Behavior of Juvenile Delinquents," *Journal of General Psychology*, XIV (April, 1936), 412–21.

Three criteria of delinquency are combined into a delinquency index, which is useful in differentiating delinquent and non-delinquent juveniles.

262. ECCLES, AUGUST K. "Seventy Out of a Thousand," *Training School Bulletin*, XXXII (January, 1936), 172–79.

A study of delinquents under eleven years of age, including data regarding ability, achievement, and home situation.

263. FENDRICK, PAUL, and BOND, GUY. "Delinquency and Reading," *Pedagogical Seminary and Journal of Genetic Psychology*, XLVIII (March, 1936), 236–43.

In a group of delinquents over 90 per cent were found to have been school failures. The group as a whole was retarded in reading to the extent of approximately five years and eight months.

264. GLUECK, SHELDON, and GLUECK, ELEANOR (Editors). *Preventing Crime*. New York: McGraw-Hill Book Co., Inc., 1936. Pp. xii+510.

A symposium containing contributions by twenty-six authorities in the field of crime and delinquency. Reports are included of the most promising representative efforts that have been made throughout the country in reducing crime through constructive work with youth.

265. GOLDBERG, JACOB A., and GOLDBERG, ROSAMOND W. *Girls on City Streets —A Study of 1400 Cases of Rape*. New York: American Social Hygiene Association, 1935. Pp. 384.

The median age of the girls reported in this study was fourteen, and the largest proportions were in Grades VI and VII. As a group they were educationally retarded. Descriptions of specific cases are included.

266. "The Jersey City Plan for the Prevention of Juvenile Delinquency," *Elementary School Journal*, XXXVI (May, 1936), 650–52.

To prevent delinquency in Jersey City, community groups, schools, the police, correctional and municipal institutions have joined forces in the last three years. Juvenile cases are handled by the Bureau of Special Service of the Jersey City Board of Education.

267. JONES, MARSHALL E. "Foster-Home Care of Delinquent Children," *Social Service Review*, X (September, 1936), 450–63.

The advantages and some of the problems arising in delinquency therapy provided through foster-home placement are described.

268. *Juvenile Court Statistics and Federal Juvenile Offenders, 1933*. United States Children's Bureau Publication No. 232, 1936. Pp. iv+114.

This report summarizes data based on information from 284 juvenile courts and the United States Department of Justice.

269. *Juvenile Delinquents in Public Institutions, 1933*. Washington: United States Bureau of the Census, 1936. Pp. iv+62.

Statistics of this study relate to juvenile delinquents from 145 state or federal institutions in 1933.

270. LYON, VERNE W. "Deception Tests with Juvenile Delinquents," *Pedagogical Seminary and Journal of Genetic Psychology*, XLVIII (June, 1936), 494–97.

Delinquency tests measuring circulatory and respiratory changes were made of a hundred random cases of juveniles suspected of deception. In over 50 per cent of the cases the technique was considered helpful in determining the facts and selecting suspects accurately.

271. MOORE, JOSEPH E. "A Comparative Study of the Educational Achievement of Delinquent and Dependent Boys," *Peabody Journal of Education*, XIV (July, 1936), 1–6.

Delinquent boys proved to be considerably below normal in educational achievement.

272. MOSES, EARL R. "Community Factors in Negro Delinquency," *Journal of Negro Education*, V (April, 1936), 220–27.

The author maintains that the settling of negro immigrant families in areas of deterioration and disorganization accounts for the abnormally high increase in juvenile delinquency among the negro population as compared with the general population.

273. ROBISON, SOPHIA M. *Can Delinquency Be Measured?* Studies of the Research Bureau of the Welfare Council of New York, No. 12. New York: Columbia University Press, 1936. Pp. xxvi+278.

The author concludes that court appearances are unsatisfactory as a criterion of delinquency; that complicated, quantitative methods may be misleading. Improvement in studying delinquency can be attained by defining specific behavior types and considering the cultural factors.

274. SULLENGER, THOMAS E. *Social Determinants in Juvenile Delinquency.* New York: John Wiley & Sons, 1936. Pp. x+412.

A close association was found to exist between broken homes and delinquency. Unsupervised, misdirected recreation is a large determining factor. Suggestions for delinquency prevention are given.

275. THRASHER, FREDERIC M. "The Boys' Club and Juvenile Delinquency," *American Journal of Sociology*, XLII (July, 1936), 66–80.

The boys' club as a therapeutic measure did not prove, during its first four years, to be an important factor in delinquency prevention.

276. VAN VECHTEN, COURTLANDT CHURCHILL, JR. *A Study of Success and Failure of One Thousand Delinquents Committed to a Boys' Republic.* Chicago: Private edition distributed by the University of Chicago Libraries, 1935. Pp. vi+168.

Residence in a boys' republic, with emphasis on self-government, is beneficial only for a limited group of delinquents. Conditions under which self-government institutions are effective in dealing with delinquency are considered.

277. WALTZ, HENRY W., JR. "Community Experiment in the Prevention and Treatment of Juvenile Delinquency," *Journal of Educational Sociology*, X (September, 1936), 43–49.

A description of an experimental juvenile-probation project conducted in Chicago in which the co-operation of local agencies was enlisted. Extensive group work with children is recommended.

278. WHITE, R. CLYDE. "Delinquency Areas in Indianapolis," *Indiana Bulletin of Charities and Correction*, No. 222 (June, 1936), pp. 161–66.

Juvenile delinquency was found concentrated in areas similar to those reported in other studies.

SUPERIOR AND GIFTED CHILDREN[1]

279. AVERILL, ESTHER C. "Art and the Talented Child," *School Arts Magazine*, XXXV (May, 1936), 563–66.

From a study of a gifted ten-year-old child the author concludes that pupils gifted in art may be allowed freedom to express their ideas and that they have little need of direction or rules.

280. HOLLINGWORTH, LETA S. "The Development of Personality in Highly Intelligent Children," *Personality Adjustment of the Elementary-School Child*, pp. 272–81. Fifteenth Yearbook of the Department of Elementary School Principals. Bulletin of the Department of Elementary School Principals, Vol. XV, No. 6. Washington: Department of Elementary School Principals of the National Education Association, 1936.

Parents who wish their child to enjoy every advantage could wish for nothing better than that he be endowed with intelligence represented in the intelligence-quotient level of 130–60. With an intelligence quotient above 160 the great deviation from average leads to special problems of development and adjustment.

281. LORGE, IRVING, and HOLLINGWORTH, LETA S. "Adult Status of Highly Intelligent Children," *Pedagogical Seminary and Journal of Genetic Psychology*, XLIX (September, 1936), 215–26.

Children with intelligence quotients at or above 140 represent approximately the seventy-fifth percentile of college graduates. Only those with intelligence quotients above 180 constitute the most gifted college-graduate group.

282. MERSAND, JOSEPH. "How Should the Teacher Carry on Work for the Gifted Child?" *High Points in the Work of the High Schools of the City of New York*, XVIII (September, 1936), 42–50.

The author recommends that gifted high-school pupils be segregated into classes of their own intellectual and achievement levels and that the teachers have

[1] See also Item 378 (Engle) and 387 (Witty) in the list of selected references appearing in the September, 1936, number of the *Elementary School Journal;* Item 480 (Wilkins) in the September, 1936, *School Review;* and Item 328 (Jenkins) in the May, 1937, *School Review.*

access to all school facilities and be permitted to construct their own curriculums.

283. MILES, CATHARINE C., and WOLFE, LILLIAN S. "Childhood Physical and Mental Health Records of Historical Geniuses," *Psychological Studies of Human Variability*, pp. 390–400. Psychological Monographs, Vol. XLVII, No. 2. Princeton, New Jersey: Psychological Review Co., 1936.

Fifty geniuses reported in history were rated for physical and mental health. The distribution for the fifty individuals with respect to these characteristics was found to be fairly normal.

284. SIDGWICK, FRANK (Editor). *Complete Marjory Fleming—Her Journals, Letters and Verses.* New York: Oxford University Press, 1935. Pp. xxii+208.

The writings of a child prodigy who lived a century ago are reproduced exactly as they were originally written.

285. ZORBAUGH, HARVEY W. (Editor). "Gifted and Talented Children," *Journal of Educational Sociology*, X (October, 1936), 65–128.

The whole issue is devoted to the theme "Gifted and Talented Children." Contains articles on the gifted child in art and in music, a description of Terman classes in a public school, a discussion of clinical problems presented by bright children, and a plea by the editor for conservation of the talents possessed by gifted children.

BLIND AND PARTIALLY SEEING CHILDREN

286. COVILLE, M. GENEVIEVE. "Blind Pupils in Public Schools," *Teachers Forum for Instructors of Blind Children*, VIII (March, 1936), 69–70, 76–77.

Describes the desirable results of the practice of the Virginia School for the Blind of transferring certain pupils to the public-school system after the termination of their second year of high-school work. In both blind and seeing children an understanding of each other and a helpful co-operation in many social activities are developed.

287. DEGNAN, WALTER J. "A Health Education Program for Blind Boys," *High Points in the Work of the High Schools of the City of New York*, XVIII (April, 1936), 5–11.

"A physical-education program for the blind is necessary to preserve and improve the health of the child, to contribute to his enjoyment of life, and to adjust him to live the type of life that his seeing brother lives." Suggestions are given for building such a program, on the basis of work done with a group of blind boys in one of the New York City high schools.

288. HASLIP, MELVIN. "Shoe Repair as a Vocational Study in the Michigan School for the Blind," *Teachers Forum for Instructors of Blind Children*, VIII (May, 1936), 82–90.

Describes a course in shoe-repairing given to blind students and discusses the possibilities of shoe-repairing as a vocational outlet for these handicapped persons. The author is himself without sight and conducts a shoe shop of his own.

289. HERSHEY, EDYTHE P. "A Sight Conservation Program in School," *Sight-saving Review*, VI (March, 1936), 50–55.

Any comprehensive sight-conservation program, as recommended by the author, should include: (1) routine annual examination of children, to determine those who have defective vision, (2) a follow-up program for correction of such defects, (3) a study of findings to determine the cause and prevention of impaired vision and its relation to school progress, and (4) health education for care of the eyes. The methods used in the Dallas, Texas, public schools are described.

290. INGRAM, CHRISTINE P. "Education for the Visually Handicapped," *Sight-saving Review*, VI (September, 1936), 212–18.

Describes experiences in sight-saving classes in the schools of Rochester, New York. Discusses standards of admission, objectives, special equipment, and community responsibility.

291. MAXFIELD, KATHRYN E. *The Spoken Language of the Blind Preschool Child.* Archives of Psychology, No. 201. New York: Columbia University, 1936. Pp. 100.

The study was conducted "for the purpose of choosing methods and procedures for future work on the spoken language of preschool visually handicapped children." On the basis of verbatim reports of the children's spontaneous language during the day, the content of their speech was classified into four types of items: (1) functional use of language, (2) social indexes, (3) constructional nature of speech, and (4) special features of language. The findings are expected to form the basis for a series of related longitudinal studies covering this field.

292. MERRILL, ELEANOR BROWN. "Occupational Adjustment of the Visually Handicapped," *Sight-saving Review*, VI (September, 1936), 192–97.

Cites several individual instances of occupational adjustments which illustrate methods and sources of obtaining help in such cases. Emphasizes the need of co-ordination of services among all agencies involved.

293. O'TOOLE, CHARLES E. "Vocational Opportunities for Sight-saving Class Students," *Sight-saving Review*, VI (June, 1936), 131–35.

Describes vocational-guidance program for the partially seeing pupils in New York City sight-conservation classes. The author says: "I prefer to think that an occupation should be considered non-suitable for the partially sighted only after it has been determined so from all the factors involved in occupational analysis as related to each degree of sight disability."

294. RICH, FRANK M. "School Art for the Blind," *School Arts Magazine*, XXXV (May, 1936), 520–24.

Describes a process of making pictures with raised lines and with materials which give a roughness and variety of texture conveying a sense of reality to the blind and capable of tactile interpretation by them.

Crippled Children

295. Beatty, Hugh Gibson. "Harelip and Cleft Palate Deformities," *Crippled Child*, XIII (April, 1936), 166–69, 182.

Discusses the nature and effects of these handicaps and the possibilities of treatment and correction.

296. Evans, William A. "The James E. Roberts School," *American School Board Journal*, XCIV (January, 1937), 51–55.

Describes the building, equipment, and special facilities in a school for crippled children in Indianapolis.

297. Foley, Marie Rainey. "A Library for Crippled Children," *Crippled Child*, XIII (February, 1936), 137–38.

Describes library methods followed by the Gillette State Hospital in St. Paul, Minnesota, to provide the crippled patients with suitable reading material. The work is planned from two points of view: therapeutic and educational.

298. Ingram, Marguerite L. "The Crippled Child in School," *Crippled Child*, XIV (October, 1936), 60–62.

Recommends the boarding school to meet the needs of children having extreme orthopedic disabilities who cannot be served through the local orthopedic school. Calls attention to the need of planning educational programs for crippled children with full information on the medical diagnosis and recommendations.

299. Strauss, Marion. "Initiative and the Crippled Child," *Crippled Child*, XIII (April, 1936), 164–65, 182–83.

The author describes evidence of lack of initiative observed in a school for crippled children, analyzes possible causes for the condition, and makes suggestions for developing this quality. Written on the basis of experience at the Elias Michael School for Crippled Children in St. Louis, Missouri.

300. Strauss, Marion. "Telling Time throughout the Ages," *Journal of Exceptional Children*, III (February, 1937), 75–78, 88–89.

A description of a curricular activity used with a sixth-grade class in the Elias Michael School for Crippled Children in St. Louis, Missouri.

301. Woodworth, Leon M. "Illness No Barrier to Education," *New York State Education*, XXIV (January, 1937), 320–22, 334–36.

Describes educational activities carried on at the New York State Reconstruction Home at West Haverstraw, a combined school and hospital for crippled children.

Deaf and Hard-of-Hearing Children[1]

302. Bluett, C. G. "Counseling the Hard of Hearing," *Occupations*, XV (February, 1937), 412–16.

Suggestions to school counselors in guiding the vocational choices of hard-of-hearing children. Lists the occupational choices made by 233 hard-of-hearing clients of the San Francisco District of the California State Bureau of Vocational Rehabilitation and shows the vocational advantage of the guided over the unguided hard-of-hearing individual.

303. Guilder, Ruth P., and Hopkins, Louise A. "The Importance of Auditory Function Studies in the Educational Program for the Auditorially Handicapped Child," *Volta Review*, XXXVIII (February and March, 1936), 69–74, 116–17; 149–55, 180–81.

The authors point out the increasing need of knowing the type and the extent of the child's hearing handicap: first, as a basis for selection of children requiring special attention; second, as a basis for class division, in conjunction with mental achievement, in special schools and classes; and, third, as a guide to the teacher in work with the individual child.

304. McNeill, Naomi. "Why Wait Until They Are Five?" *Volta Review*, XXXVIII (September, 1936), 501–4, 542–43.

An account of the nursery-school activities carried on for hard-of-hearing children under the direction of the Rochester (New York) Board of Education and supervised by the Department of Parent Education and Child Development, with the co-operation of the Rochester School for the Deaf and with financial support from the Works Progress Administration.

305. Martens, Elise H., and Others. *The Deaf and the Hard-of-Hearing in the Occupational World.* United States Office of Education Bulletin No. 13, 1936. Pp. 96.

A survey was carried on under the Civil Works Administration to determine the types of occupations for which deaf and hard-of-hearing young people can most successfully be prepared. Findings are based on a study of factors connected with the employment status of 19,580 deaf and hard-of-hearing adults.

306. Pintner, R., and Brunschwig, L. "Some Personality Adjustments of Deaf Children in Relation to Two Different Factors," *Pedagogical Seminary and Journal of Genetic Psychology*, XLIX (December, 1936), 377–88.

On the basis of a personality inventory constructed to meet the special limitations of the deaf because of their "relatively immature thinking habits" and language usage, certain pupils of residential schools for the deaf were studied with respect to the relation between their social adjustment and (1) the method by which they were being taught and (2) the amount of deafness in each subject's family.

[1] See also Item 349 (Brunschwig) in the list of selected references appearing in the May, 1937, number of the *School Review*.

307. POPE, ALVIN E. "The Use of Hearing Tests and Hearing Aids in the Education of the Deaf," *American Annals of the Deaf*, LXXXI (September, 1936), 323–32.

Discusses the values of acoustic training in schools for the deaf, desirable procedures, and requirements for successful outcomes. The author believes that "the advances in instrumental aid offer wonderful opportunities to educators of the deaf." The paper was given at the seventeenth meeting of the Conference of Executives of American Schools for the Deaf and was followed by extensive discussion, also printed in this issue of the *Annals*.

308. SCYSTER, MARGARET. "Summary of Four Years' Experiment with Preschool Deaf Children at the Illinois School for the Deaf," *American Annals of the Deaf*, LXXXI (May, 1936), 212–30.

This summary presents reasons for conducting the experiment and describes pupils and living conditions, tests and measurements used, curriculum activities, and play materials. It discusses also the influence of preschool training in the home life of the deaf child. Cases studied included fifty preschool deaf children, fifty children between six and seven years of age entering school for the first time, and a control group of twenty-five preschool-age hearing children. The question toward the answer of which the study was directed is: Will the preschool-trained deaf child be better equipped for learning and for living than a child not so trained? Follow-up is now in progress.

309. WYMAN, MARY MAY. "Conserving the Vision of Deaf and Hard-of-Hearing Children," *Sight-saving Review*, VI (September, 1936), 204–11.

"Special attention must be paid to the vision of those children who possess the handicap of deafness" since their eyes must do double duty throughout life. Discusses the elements of schoolroom arrangement and equipment that are essential in conserving the sight of these children.

DELICATE CHILDREN

310. *Open Air Classrooms*. New York: National Tuberculosis Association, 1937. Pp. 14.

A report of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association. Discusses the advantages of open-air classes and the need of all children for the facilities thus made available.

311. ROBINSON, H. C. "Conservation and Development of Children with Heart Disease," *Journal of Exceptional Children*, III (February, 1937), 79–82.

Points out that 1½ per cent of children of school age have organic heart disease and that about 44 per cent of these have an impairment serious enough to make them eligible for special classes. Discusses problems of understanding, rest, and exercise as related to the protection of the child and his best development.

312. ROGERS, JAMES F. *What Every Teacher Should Know about the Physical Condition of Her Pupils.* United States Office of Education Pamphlet No. 68 (1936). Pp. 30.

Gives practical suggestions for checking the child's physical condition in order that his body may be put in the best possible working condition. Means of detecting serious handicaps are noted and described.

313. STRACHAN, LOUISE. "Open Air Education in Germany," *Journal of Exceptional Children*, III (December, 1936), 39–44.

On the basis of observations made in Germany the author discusses elements of the program under way in that country. Emphasis is placed on open-air education for all children, not only for those recognized as tuberculous, pretuberculous, or delicate.

SPEECH DEFECTIVES

314. BLANTON, SMILEY, and ZERLER, MARY LOUISE. "Helping the Child Who Stutters," *National Parent-Teacher Magazine*, XXXI (October, 1936), 14–15, 22.

"Any break in the rhythm of speech indicates maladjustment or an inability to meet the situation in an easy, natural way." The article gives helpful suggestions to parents and teachers concerning methods of ascertaining the causes of maladjustment and of meeting the problem of stuttering.

315. DAVISON, LOUISE D. "Methods for Treatment of Disorders of Speech Due to Birth Injury," *Quarterly Journal of Speech*, XXII (October, 1936), 404–12.

Gives case studies of children so handicapped, describing in detail methods of treatment used. Working for motor control and speech response through physical therapy is the basis of the method employed.

316. KROUT, MAURICE H. "Emotional Factors in the Etiology of Stammering," *Journal of Abnormal and Social Psychology*, XXXI (July–September, 1936), 174–81.

Describes in detail three case studies of stammerers of eighteen to twenty-one years of age which disclosed emotional conflicts dating back to childhood days. These conflicts seemed to have direct bearing on the stammering, and the treatment given involved assistance in overcoming the emotional problems.

317. MASE, DARREL J. "A Speech Corrective Program for the Teachers College," *Quarterly Journal of Speech*, XXII (December, 1936), 618–26.

Presents observations as to method of establishing a speech-corrective program in a teachers' college and objectives of such a program. Based on experience in this field in State Teachers College, California, Pennsylvania.

318. OTTO, HENRY J. "Utilizing Teachers' Special Talents in Small Schools," *Educational Administration and Supervision*, XXIII (January, 1937), 35–42.

"This article deals with a method of providing instruction in speech correction for children in typically rural counties." It describes a project carried on in cooperation with the W. K. Kellogg Foundation in four rural counties of Michigan whereby scholarships for an eight-weeks intensive course in speech correction were provided for specially selected regular teachers in the counties included. Each teacher then did special work in speech correction in the schools of her district.

319. WEST, ROBERT. "Is Stuttering Abnormal?" *Journal of Abnormal and Social Psychology*, XXXI (April–June, 1936), 76–86.

Discusses various theories of causation of stuttering and gives suggestions concerning prognosis and treatment.

GENERAL REFERENCES[1]

320. LAYCOCK, S. R. "Mental Hygiene in Special Education," *Journal of Exceptional Children*, III (October, 1936), 2–9.

Considers six positive criteria for mental health and applies them to practices with exceptional children, both handicapped and gifted.

321. THOMPSON, K. L. "Jersey City's School-Community Program," *Journal of Educational Sociology*, IX (February, 1936), 364–69.

Besides providing the traditional elementary- and secondary-school program, Jersey City is attempting to serve the community by providing for the education of the foreign-born, for the adult, the physically handicapped, the mentally handicapped, and the maladjusted. Special mention is made of the Bureau of Special Service, the purpose of which is to integrate all community services in the diagnosis and treatment of special problems.

[1] See also Item 324 (Bentley) in the list of selected references appearing in the May, 1937, number of the *School Review*.

Educational Writings

REVIEWS AND BOOK NOTES

The story of a great adventure in education.—When the recent history of American education is evaluated, the experimental school inaugurated by John Dewey in his early years at the University of Chicago will be regarded as the beginning of one of the most significant educational movements of modern times. It comes somewhat as a shock to the casual observer of the educational scene to realize that there has been no authoritative and detailed account of this pioneer experiment in progressive education. It is therefore an occasion for genuine gratitude among educators everywhere that a prominent publisher should bring out a complete and competent exposition of this history-making venture in socialized education.[1]

In view of the historical nature of this publication, it is important that some reference be made to the competence of the authors to undertake this task:

> The authors were both teachers in the school. Katherine Camp Mayhew, as vice-principal, was in charge of the developing curriculum; she was also head of the science department. Anna Camp Edwards was a teacher of history in the early experimental period and later as a special tutor followed through the work of all other departments at older age levels, an experience which has aided her in interpreting the value of Mr. Dewey's philosophy of education in the present crisis [p. vii].

The plan of the study was worked out in close co-operation with Mr. Dewey, who has guided the entire development of the book. The authors also had access to the original records as well as to the complete file of early publications describing the venture, which in many instances are now out of print. Further evidence of the authoritative character of this account is contained in the Introduction of the book, which Mr. Dewey himself has written.

The major content of the book is drawn up in four divisions and three appendixes. Chapter i of Part I in seventeen pages presents a brief historical account of the school's beginnings, the main principles of its hypotheses and method, and a general statement of how these principles were worked out through the activities of the pupils. Chapter ii gives a detailed account of the precariously experimental period of the first two years, during which the cur-

[1] Katherine Camp Mayhew and Anna Camp Edwards, *The Dewey School:* The Laboratory School of the University of Chicago, 1896–1903. New York: D. Appleton-Century Co., Inc., 1936. Pp. xvi+490. $2.50.

riculum gradually took form. The first chapter in Part II considers, from a psychological and social point of view, the theoretical basis for the selection of activities as subject matter for the elementary curriculum. The remaining chapters of Part II and Part III constitute the major portion of the book. They are devoted to detailed description of the materials and activities of the school's slowly evolving curriculum.

The first chapter of Part IV is given over to the teacher's place in the scheme of the school, with particular emphasis on the freedom of the teacher and on her development. The next chapter describes the part played by the parents and the pupils and emphasizes the co-operative spirit which suffused the whole undertaking. The final chapter devotes twenty-nine pages to an evaluation of the practices and principles of the school. The first two Appendixes present important papers with respect to Mr. Dewey's philosophy of education, and the last Appendix contains a list of the teachers and assistants in the Laboratory School.

One interesting aspect of the book is the inclusion of statements made by former pupils evaluating the influence of the school on their development. These statements are favorable to the school and are very revealing. They represent only a small number of the persons who must have participated in this unique educational adventure and are not therefore an adequate sampling for purposes of scientific appraisal. Nevertheless, even these few data suggest that it would be a great contribution to education if someone would continue this part of the story from the point where the authors have left it by canvassing the remaining living members of the alumni association of the Dewey School.

Whatever one's philosophy of education or predilection with regard to pedagogical practice, this document is a valuable—the reviewer is tempted to say, an indispensable—contribution to educational literature. The use of the word "historical" in the course of this review may lead the reader to regard this book as being of value only to the student of the history of modern education. Such an impression would be untrue and unfortunate; for this account has equally great value for the student of modern educational trends. All phases of school work have been integrated so thoroughly and the book is essentially so contemporary that the administrator, the classroom teacher, and experts in curriculum, psychology, philosophy, and sociology of education will be greatly stimulated by this presentation. There is probably no better account of the modern progressive school in print.

HOWARD Y. MCCLUSKY

UNIVERSITY OF MICHIGAN

An interpretation of education by twenty-five psychologists and educators.—The following quotations from the Preface and introductory chapter describe well the character of a book on educational psychology edited by Skinner.[1]

[1] *Educational Psychology.* Edited by Charles E. Skinner. New York: Prentice-Hall, Inc., 1936. Pp. xxvi+754. $3.20.

Major emphasis has been placed on such "master ideas" as *continuous growth, goal seeking, intelligent self-direction, pupil purposing, creative experiencing, and social functioning* [p. vi].

The aims and objectives of educational psychology, therefore, center in the fundamental problem of promoting continuous growth and wholesome personality development through: (1) *increasing ability for intelligent self-direction in the changing social order;* and (2) *increasing ability for discriminative social functioning.* The emphasis is on growth and conduct [p. 14].

Educational psychology assists the educator in attaining his aims: (1) *by enhancing and enriching his own life;* and (2) *by helping him bring about improvement in the quality of instruction* [p. 15].

This book does not consist merely of a collection of probably useful facts and principles of psychology as do so many elementary textbooks in this field. Throughout its pages there is usually present an organic union between psychology and educational theory and practice.

Whether in consequence of editorial design or good writing, T. R. McConnell's chapter on "The General Nature of Growth" provides a summary of fact and principle that is unequaled in its value for students of education. The other nine chapters of the section on growth develop the details and the educational meaning of this first chapter to make a complete and well-integrated treatment. The chapters on growth provide so well for an acquaintance with the more fundamental principles of learning that the treatment of these principles in a special section seems weak. There is, however, a particularly good chapter on transfer of training by Webb. He has succeeded well in pointing out the more important educational meanings of the facts of transfer:

Too often teachers have worked on the principle that the fixing of habits is the desirable educational outcome. That is exactly what will happen under such a method of teaching. The students learn to repeat the materials in the particular situation of the classroom and are unable to apply them when opportunity is offered elsewhere. The situations of life are constantly changing, highly variable. This fact means that pliability and not rigidity of habits and skills should be the end sought, and the procedures of the classroom should be organized with this end in view [p. 349].

The chapter on the learning of special school subjects is satisfactorily complete but not burdensome. It wisely treats of developmental principles rather than of detailed special methods of teaching.

Measurement is treated in subordination to individual differences. There is adequate discussion of intelligence tests, educational tests, and the factual information that has been obtained by applying tests in research investigations. The reader could wish that these chapters contained more of stimulating suggestions for educational procedures similar to those found in the earlier chapters on growth.

The importance of personal adjustment and guidance is recognized in five excellent chapters that are rich in both psychological and educational principles.

The book concludes with a summary of viewpoints concerning learning that is not up to the high standards set by earlier portions of the work. This summary will scarcely prove interesting or instructive to the college student or to the teacher in public schools.

The collaborators have produced a comprehensive, well-written, and well-integrated presentation of psychological principles and have succeeded in showing their educational meaning. They have avoided both superficial treatment and presentation of irrelevant detail. They have produced a work that belongs among the superior books for use in first courses in educational psychology. It is also worth careful reading by experienced teachers for revision and confirmation of their theory and practice.

C. E. RAGSDALE

UNIVERSITY OF WISCONSIN

A health program for Grade II.—The health program is the business of parents. Where the school must be responsible, however, the ideal program is one in which hungry children are fed, dirty children are made clean, and children with incipient diseases are removed from the teaching group until they are well. Where this program is not possible and books must be used as aids, the books should be selected because the facts are simply and directly presented. A recent book[1] performs this task very well in a few chapters but spoils the sincerity of the material by introducing such artificial characters as Princess Dark, the Queen of Health, and Dr. Fresh Air, as well as many others. A book which is not sincere throughout will not be liked by intelligent second-grade pupils.

ADA R. POLKINGHORNE

Social studies in the intermediate grades.—This volume[2] adds to our slowly growing supply of social-studies materials a usable book for intermediate grades. The authors have so well stated their essential conceptions underlying the building of a program for the social studies in the grades that a quotation will serve to indicate the general plan into which the book is intended to fit:

> A program that is the outcome of such considerations must be one in which fundamental understandings take precedence over fact as fact, which stresses change and development rather than exact, detailed pictures of any certain area or areas in time or place, which seeks to make pupils conscious of the story of human development as a story of the struggle of individuals or of groups with forces or factors in their environment, and which reveals to pupils that the present lies in the stream of that development and of that struggle and that the future is dependent upon the part they themselves take in that struggle [p. v.].

[1] C. E. Turner, Alice L. Beckwith, and Nell Josephine Morgan, *The Joy Family.* Boston: D. C. Heath & Co., 1936. Pp. viii+130. $0.50.

[2] Herbert B. Bruner and C. Mabel Smith, *Social Studies:* Intermediate Grades, Book I. New York: Charles E. Merrill Co., 1936. Pp. viii+440. $0.96.

In all major particulars the text of the book exemplifies these principles. Opinions will probably differ concerning the points to which exception is taken in this review, but the suggestions offered do not detract from the usefulness of the volume in the hands of the skilful teacher.

The authors have chosen for the intermediate-grade books "eleven significant aspects of living," four of which are presented in Book I: "The Story of Agriculture," "The Story of Fire," "The Story of the Sea," and "The Story of Writing." Each of these is treated as a unit having four to six subdivisions called sections. The general plan of each unit is to open with a conversational section tying up to the present. Then, with this introduction into modern times as a setting of the problem, the succeeding sections tell a developmental story from early beginnings to the present. The book would gain immeasurably if these opening conversations had been curtailed or omitted entirely and the systematic presentation of the evolution of the selected human achievement had been begun immediately. Of the four units, "The Story of the Sea" is the least well organized because of the shifting of emphasis among ships, sailor nations, and trading in early, ancient, medieval, and modern times. It is a little complicated to follow as a story of development! It might gain much if it had been presented only from the standpoint of improvement of water transportation, with the stress on the evolution of ships, or from a viewpoint of how men learned to trade overseas.

With the exception of the conversational introductory sections, the materials are exceedingly well written. The language is simple but vigorous enough to describe interestingly ideas and events which are often complicated. The book may be used in Grades V, VI, or VII, provided the conversational sections are omitted. Irrelevant details have for the most part been carefully avoided. Each section is divided into shorter contributory understandings, at the end of which are exercises directed to the pupil: questions of review and forward-looking intent, reading references, activities, and occasionally additional factual materials. The inclusion of some device to aid in keeping the evolution idea as a progressive story would be of great service to most teachers.

The book is well illustrated with many large photographs, drawings, and maps, to which references are incorporated in the text. The printing and the page arrangement are excellent.

In carrying out one of the implied objectives in their social-studies program, namely, making a pupil feel that his present is part of the past but equally a part of the future, the authors have included a few excellent sections, such as that on "Our New Food Problem," in which the present and the possible future effects of machines on employment are briefly and fairly portrayed. So, too, at the end of a section on modern heating there are forward-looking paragraphs beginning, "Perhaps by the time your children are in school. . . . ." Other such discussions are brief and scattered, partly because of the nature of the material. However, too often is an impression left that the present stage of development of the selected achievement is the ultimate stage. Granted that a certain responsibility

in imparting attitudes and conceptions belongs to the teacher of social studies and granted that many of the desired understandings which are to be the final outcome of a social-studies course are built up through proper guidance and may not of necessity appear in written materials, nevertheless it seems important that pioneering projects, such as textbooks in social studies still are, should consistently guide points of view.

In parts of the story dealing with man's experiences before written history or with the unrecorded happenings afterwards, the authors have not been consistent. It is of course awkward to be repeatedly prefacing paragraphs with "perhaps," "probably," "it may have been," "suppose," "we do not know exactly," "it could have happened," and like expressions, as is carefully done in much of the material dealing with early times, but in too many places blanket statements are made which violate historical probability and common sense. These create the impression that people in general suddenly realized their need of invention, discovery, or improvement and then definitely set about to fulfil their requirements. Such statements as the following, even taken in their context, give little credit to the slow, many times accidental, improvements, inventions, and discoveries made by individuals who frequently met little approval and reluctant acceptance by their fellow-men.

> A little more than one hundred years ago, people became interested in the kinds of tools used by the workers. Better tools were given to the carpenters, the masons, the cloth-makers, the miners [p. 110].
>
> "The sailors need roads, too," said the road-builders. . . . . "We must make roads through the seas for the sailors." So other road-builders made roads over the seas [pp. 325–26].
>
> After a while, people saw that they needed better ways of exchanging ideas than just by sounds and signs. . . . . They wanted to talk; so they invented a way to do it [p. 351].
>
> When the pictures were always made in the same way and always read in the same way, they became picture writing [p. 364].

It is to be hoped that the forthcoming books of the series will embody and develop the many excellencies of the first volume.

RUTH R. WATSON

The world in review.—A survey of European civilization, often called "world-history," has taken a conspicuous place in the curriculum during the past twenty years. Occasionally three years have been allocated to the survey; more often two years; or, when administrators desire to economize time, one year. The two-year treatment implies more ruthless elimination of facts and topics than we have usually been willing to make; the one-year course, covering nearly six thousand years of recorded history, imposes an impossible strain on both organization and teaching. Mere going through a textbook, "covering the ground," is not teaching. Full detail, comparison, contrast, unhurried attention to the relations between past and present are necessary if any study of history is to be worth the time spent on it.

Story of Nations[1] makes no novel contribution to the selection and organization of the facts and topics of world-history, though it lives up to best current practice. Its 680 pages—large, double-column pages—of text are divided into 76 chapters, which are grouped into 20 "parts," the titles of which present a rough sketch of world-development. The account is first chronological; then, when possible, national. Twenty-six pages are devoted to early man; 268 pages to the ancient and medieval worlds; two to seven chapters each to the British, French, Germans, Russians, Spanish, Italians, Dutch and Belgians, Scandinavians, Japanese, and Chinese in the modern times; and 76 pages at the end to "Problems of the Modern World." Thus, the volume is, save for the omission of the Americas, truly a world-history. It also finds space for attention to art, literature, music, and to major achievements; geographical factors and economic development are not neglected. As a whole, the account is well balanced and is in accord with the broad concept of history current in the present day.

In its presentation the book achieves distinction. The narrative style is excellent; the illustrations are numerous, carefully selected, and effectively used. The black and white pictorial maps are attractive, but some of them are too elaborate and complicated for easy learning. Two colored maps are given at the back of the book. Overviews, boldface headings, summaries, self-tests, carefully selected readings, occasional graphs, and a double-page chart showing "The Shifting Pattern of Nations" contribute to the usefulness of the book in learning and teaching.

Differences of opinion about details or even about topics included or omitted are always possible, and no rapid survey can be entirely accurate. On the whole, however, it must be said that, if the schools are to use a one-volume history of western civilization in which the major developments are all represented, it is not likely that a much better book can be secured than the intelligent work of these three Californian collaborators. As the basis for a two-year course it should be excellent; as the substance of a one-year dash down the ages it fills excellently a very bad prescription.

ERLING M. HUNT

TEACHERS COLLEGE, COLUMBIA UNIVERSITY

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY AND PRACTICE

BAGLEY, WILLIAM C. *A Century of the Universal School.* The Kappa Delta Pi Lecture Series. New York: Macmillan Co., 1937. Pp. xvi+86. $1.00.

BODE, BOYD H. *Democracy as a Way of Life.* The Kappa Delta Pi Lecture Series. New York: Macmillan Co., 1937. Pp. xiv+114. $1.25.

Education against Propaganda: Developing Skill in the Use of the Sources of

[1] Lester B. Rogers, Fay Adams, and Walker Brown, *Story of Nations.* New York: Henry Holt & Co., 1936 (complete edition). Pp. x+704. $2.12.

Information about Public Affairs. Elmer Ellis (editor). Seventh Yearbook of the National Council for the Social Studies. Cambridge, Massachusetts: National Council for the Social Studies (Lawrence Hall, Harvard University), 1937. Pp. vi+182. $2.00.

Library Trends: Papers Presented before the Library Institute at the University of Chicago, August 3–15, 1936. Edited with an Introduction by Louis R. Wilson. Chicago: University of Chicago Press, 1937. Pp. xvi+388. $2.00.

MANN, MARY PEABODY. *Life of Horace Mann.* (Centennial edition, in facsimile.) Washington: National Education Association of the United States, 1937. Pp. xii+610.

NORTON, JOHN K., and NORTON, MARGARET ALLTUCKER. *Wealth, Children, and Education.* School Administration Series. New York: Teachers College, Columbia University, 1937. Pp. xviii+100. $2.00.

TIDYMAN, WILLARD F. *Directing Learning through Class Management.* New York: Farrar & Rinehart, Inc., 1937. Pp. viii+540. $2.50.

WEXBERG, ERWIN, M.D., with HENRY E. FRITSCH. *Our Children in a Changing World:* An Outline of Practical Guidance. New York: Macmillan Co., 1937. Pp. xii+232. $2.00.

WYNNE, JOHN P. *The Teacher and the Curriculum.* New York: Prentice-Hall, Inc., 1937. Pp. xxii+440. $2.50.

BOOKS PRIMARILY FOR ELEMENTARY-SCHOOL TEACHERS AND PUPILS

BARDWELL, R. W., MABIE, ETHEL, and TRESSLER, J. C. *"Elementary English in Action" Practice Book:* Grade III, pp. 80; Grade IV, pp. 80; Grade V, pp. 80; Grade VI, pp. 80. Boston: D. C. Heath & Co., 1936. $0.24 each.

CLARK, JOHN R., OTIS, ARTHUR S., and HATTON, CAROLINE. *Modern-School Arithmetic:* Third Grade, pp. xii+274; Fourth Grade, pp. xii+258. Yonkers-on-Hudson, New York: World Book Co., 1937 (new edition). $0.72 each.

Junior English in Action: Book I, pp. xiv+402, $1.00; Book II, pp. xvi+448, $1.08, by J. C. Tressler and Marguerite B. Shelmadine; Book III, pp. xvi+474, $1.16, by J. C. Tressler. Boston: D. C. Heath & Co., 1937 (revised edition).

LOGASA, HANNAH. *Biography in Collections:* Suitable for Junior and Senior High Schools. New York: H. W. Wilson Co., 1937 (revised and enlarged). Pp. 132. $1.25.

MIDDLEBROOK, PEARL H. *A Teacher's Guide to United States and Canada.* Newark, New Jersey: Silver Burdett Co., 1937 (revised). Pp. vi+42. $0.24.

Notable Short Stories. Selected and edited by Raymond McFarland. New York: Macmillan Co., 1937. Pp. xvi+424. $1.00.

REYNOLDS, H. ATWOOD. *The Game-Way to Sports.* New York: A. S. Barnes & Co., 1937. Pp. xiv+210. $2.00.

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